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ABSTRACT

This volume presents descriptions of Continuous Quality Improvement (CQI) as it is being applied at 25 institutions of higher education. It offers 25 different perspectives on use of the strategic framework, and provides numerous ways to think about issues confronting campuses that decide to embrace CQI. An introduction outlines CQI's beginnings in W. Edwards Deming's Total Quality Management movement, and examines obstacles to CQI and where CQI is heading. Each of the 25 descriptions considers the institution's reasons for embracing CQI, getting started, the strategic framework, obstacles, key successes, academic activity, faculty resistance to CQI, next steps, and hindsight. The 25 institutions described are: Babson College (Massachusetts), Belmont University (Tennessee), Cornell University (New York). Dallas County Community College District (Texas), Delaware County Community College (Pennsylvania), El Camino College (California), Fordham University Graduate School of Business (New York), Fox Valley Technical College (Wisconsin), George Mason University (Virginia), Georgia Institute of Technology, Lamar Community College (Colorado), Maricopa County Community College District (Arizona), Marietta College (Ohio), Northwest Missouri State University, Pennsylvania State University, Rio Salado Community College (Arizona), Rochester Institute of Technology (New York), St. John Fisher College (New York), Samford University (Alabama), Southern College of Technology (Georgia), University of Illinois-Chicago, University of Michigan, University of Minnesota, University of Tampa (Florida), and University of Wisconsin-Madison. The survey instrument is appended. (JDD)

ED 378 887

AAHE's Continuous Quality Improvement Project

25 Snapshots of A Movement

Profiles of Campuses Implementing CQI

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25 Snapshots of A Movement

Profiles of Campuses Implementing CQI

With an Introduction by Steve Brigham

A publication of
The AAHE Continuous Quality Improvement Project
American Association for Higher Education

25 SNAPSHOTS OF A MOVEMENT: PROFILES OF CAMPUSES IMPLEMENTING CQI
A publication of the AAHE Continuous Quality Improvement Project

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For more information about the American Association for Higher Education, the AAHE Continuous Quality Improvement Project, and the Academic Quality Consortium, see the Appendix beginning on page 123.

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PREFACE

This volume is a first attempt to answer the question "Who is 'doing' CQI, and how have they gone about it?" There easily could have been another fifty campuses included in this directory, all with unique and common reasons for selecting CQI as a strategic framework, and all with distinctive features in approach and experience. We selected twenty-five campuses we knew to be actively practicing CQI, and thanks to their generous cooperation and candor, we now present an album of "snapshots" depicting twenty-five institutions at different stages of the Quality journey.

There's a franticness and an infatuation that accompanies any new movement, and this one is no different. The tendency when using this volume might be to say, "XYZ University, they are like us. They started out with a top-level Quality council, so should we." But this directory is not about prescriptions; it is about perspective — twenty-five different ones. There is not one institution profiled here that would comfortably say, "You should do it like this." One of the many hard lessons learned over and over again is that you have to start with where you are, and only you can know where that is. Cloning another's implementation plan is a recipe for severe disappointment; applying Institution Y's strategy for working with faculty may have as good a chance to fail as it does to succeed at your own institution. What this publication offers is the good, the bad, the handsome, and the ugly for each institution. It offers numerous ways to think about many of the issues your campus will confront if it decides to embrace Continuous Quality Improvement. It is my sincere hope that this publication will be used in the spirit in which it is intended.

I owe a debt of gratitude to Paul Katzman, who played a major role in the coordination of this publication at every stage, all while juggling three jobs and his doctoral work in higher education administration. Thanks go to Bry Pollack and Gail Hubbard for their very consistent and skillful guidance and for always giving AAHE publications the right "finishing touch." Special recognition also should go to all of the CQI "campus coordinators," who have tolerated our every inquiry, clarification, request, and demand during the last five months to keep this publication on schedule. Finally, thanks go to the numerous members of the Academic Quality Consortium (AQC, see page 126), who encouraged the creation of such a book and who comprise nearly two-thirds of the institutions listed here. The consortium institutions and the dozens of other "lead" institutions continue to blaze a bold and exciting trail toward new institutional models for higher education.

Steve Brigham
Director
AAHE Continuous Quality Improvement Project
June 1994

INTRODUCTION

I. CQI IN HIGHER EDUCATION

When Fox Valley Technical College first embraced the principles of Total Quality Management (TQM) in 1985, the term "TQM" had yet to be coined. (The Department of Defense introduced it later that same year.) When, four years later, Oregon State University became the first major research university to cast its lot with Quality, TQM was still a virtual unknown, except in manufacturing circles. Yet, together with a half-dozen colleges and universities, these two institutions helped to blaze a trail that hundreds of other schools now are attempting to follow.

TQM — or more commonly now, CQI (Continuous Quality Improvement) — has not entered the world of higher education without controversy. With this "new" management paradigm have come fervent appeals to focus on customers, improve processes, clarify missions, organize around teams, and manage by data. CQI's terminology is almost always the first and highest hurdle to clear for any institution that is serious about implementation. Some institutions eventually embrace the language wholeheartedly, willing to weather the storm that will certainly follow. Others develop a lexicon more palatable for internal audiences and better suited to their organizational culture. Still others never overcome CQI "bizspeak," considering it near-blasphemous to perceive higher education — a multibillion-dollar enterprise — as anything resembling a business.

Yet CQI, as troublesome as its language may be at the outset, has too much to offer higher education to be summarily dismissed.

CQI emphasizes being mission-driven, or, as W. Edwards Deming referred to it, maintaining "constancy of purpose." At a time when many institutions are having to backtrack from a recent history of being "all things to all people," only a scant few (if any) will be able to sustain that all-encompassing mission. Most will need to sharply refine or redefine their "mission," and, in the process, redetermine core constituencies and future directions that make sense in light of the new mission. Clarity of mission also will assist in making critical budget decisions — determining which programs to develop further and which have outlived their institutional usefulness.

CQI also emphasizes the importance of the "customer" (an admittedly inadequate term for higher education) or "those we serve." Many "customers" of higher education, whether they be students, parents, employers, or legislators, are increasingly and publicly complaining about a widening gap between their expectations of institutional performance and the actual results. Higher education always has been provider-driven: The institution or the faculty member has been the ultimate arbiter and determiner of quality, with little input from "outsiders." The

prevalent attitude, which in some ways is no different from that of car makers during the post-World War II era, has been "We know what you want, and we're already providing it."

Such arrogance was acceptable, maybe even useful, in decades past. But at a time when change happens at a remarkable pace and is certain only to increase, such behavior is not only inappropriate and out of touch, it is hazardous to institutional health. However, one should not mistake this as an argument that the student, as customer, is *king* (or queen) or that the student is *always right*. What CQI does argue for, using the student as one example of a "customer," is a focus on things that matter most (which will vary from institution to institution), such as the ease with which a student can register for courses, the level of convenience of the library's services, the cleanliness of the residential quarters, or the depth and richness of student learning. CQI instructs us to maintain an unwavering focus on our most important constituencies, knowing (or finding out) what their needs and requirements are, regularly assessing whether those needs are being met, and committing to improving operations so that those requirements are met or exceeded.

Finally, CQI asks us to continuously improve, simplify, and streamline our processes. It doesn't require deep organizational analysis to see that our administrative functions are overly compartmentalized and our academic activities are increasingly disconnected. How, then, with such inefficiencies and impediments, can we be sure that a complete and comprehensive education will be possible for each student? There is a pressing need for regular inquiry into processes that deliver the "goods and services" of an academic institution and for building the internal capacity to institute the required (and significant) changes our institutions will need to make to keep pace not only with rapid change but with the numerous forces converging upon higher education from nearly every direction. The opportunity to view our institutions systemically, to know our core processes, to align them in ways that form an organization into a more coherent whole — that is what CQI offers.

Thus, mission, the importance of knowing "those we serve," and process improvement are three critical components of any CQI implementation effort. It is the promise of CQI, and what AAHE vice president Ted Marchese refers to as CQI's "tantful of ideas," that has led many campuses to give it a try. But as you will discover in this directory, CQI is rarely — if ever — easy. It takes enormous effort, and it has no final destination. CQI is more than new methods of working, managing, and leading; it is a new way of thinking about our work and our organizations.

This directory follows in the footsteps of two popular AAHE publications that used a similar formula — *Campus Use of the Teaching Portfolio: 25 Profiles* (1993) and *Assessment Programs and Projects: A Directory* (1987, 1990). It seems that each time a hot topic enters the higher education conversation — assessment, teaching portfolios, or changes to the faculty reward system — there's a frantic scurrying around to find out who's doing it, how they are doing it, and whether or not it is working. The same is now true for CQI. In the past year, AAHE's CQI Project has taken countless calls from callers trying to pin down "What institution, like ours, is doing CQI?" "What implementation scheme should we use?" or even, "How can we avoid making the same mistakes the pioneers made?"

The "snapshots" compiled in this volume are exactly that: two-dimensional pictures of twenty-five campuses in the midst of implementing CQI, all taken at a particular point in time (spring 1994). In such a format, it is almost impossible to capture the dynamism and complexity of their efforts. A snapshot of a campus today might look slightly different from one taken

three months from now, and significantly different from one taken a year hence. There is, however, great value in a snapshot. A snapshot captures an enormous amount of information in one frame that can be scrutinized, analyzed, and shared by multiple viewers. And, once you know the photographer, you can ask questions to understand the larger context in which the picture was taken.

This volume has two campus audiences: those who are very new in their implementation and are looking for greater perspective in launching their efforts; and those who have yet to decide if CQI is "right" for their current organizational goals or circumstances. Thus, this directory can assist campuses by (1) demonstrating the numerous approaches that campuses, across institution type, have chosen in implementing CQI; (2) describing similar as well as distinctive features about successes, impediments, and future plans; (3) helping campuses that are new to CQI to identify situations and circumstances that are analogous to their own campuses; and (4) recognizing the CQI efforts of some (but nowhere near all) of the campus "pioneers."

A survey (reproduced on page 125) generated the data and information for this directory. Each campus was asked to provide detailed but concise answers to a set of common questions, i.e., What strategic framework have you used to implement CQI? What key obstacles have you encountered? What have been your key successes? What are your planned next steps? and so on. The responses have been edited, but great care was taken to preserve the original tone and content of each entry.

II. A FEW OBSERVATIONS

Reading a few of the individual profiles for insights into your own institution is certainly one valuable use of this directory. But the goal of this publication is also to identify some broader issues and lessons for those who may have limited time in which to study the individual entries. Highlighted below are a few items that will help all of us to think more deeply about the practice of CQI on campus.

Getting Started

In a 1991 study, *Total Quality Management in Higher Education: A Critical Assessment*, Dan Seymour noted three different approaches being used to implement CQI: (1) the cascade model (CQI is promoted from and carried out by top leadership); (2) the infection model (successful, but somewhat isolated, pilot projects diffuse through the organization in different directions); and (3) the loose-tight model (top management is involved to a degree, but success depends upon committed leadership from below). Although the twenty-five institutions featured here might have embraced one, two, or even all three approaches at various stages of implementation, CQI seems to require a more visible approach that is guided by a master plan. That's not to say that such a shift in approach ensures success or will be easier to manage; but low-key, less strategically oriented approaches risk generating insufficient momentum or attention.

Nearly all of the institutions featured in this directory have a Quality council, a Quality steering committee, or some body that oversees and guides the Quality effort. A very high percentage (80 percent) have either a Quality office, a full-time Quality professional, or both; however, two schools of business and two community colleges have neither. Another college has a very elaborate committee structure overseeing the "transformation" process, but it has

not established a Quality office because it believes Quality to "be the responsibility of the entire campus community."

The full-time professionals and Quality offices typically select and train teams, identify processes to be improved, develop and deliver training programs, and serve as consultants to teams. Steering committees or Quality councils focus more on strategic and cross-functional issues, as well as developing vision and mission statements and articulating the new direction of the institution.

Obstacles

In certain ways, the obstacles to CQI implementation in higher education differ little from those found in the corporate world (except for the obvious issues with the language). Few large-scale organizational change efforts take place in any industry without encountering fear, resistance, pain, poor communication, and disagreement. Even the most enlightened implementation plans that take into account barriers and deterrents will cough and sputter, be challenged, and encounter resistance. Embracing CQI is not for the faint-hearted. There always will be a camp waiting for it to fail and hoping for a return to business as usual.

Even when many of the "right" elements are in place — CQI has the chancellor's endorsement, a Quality office is established, staff are hired, resources are reallocated — the challenges of CQI implementation remain formidable. Some will perceive that CQI is a guise for cutting costs and reducing staff. Others will remain convinced that higher education institutions are not capable of the massive change CQI proposes, no matter how inspiring or enlightening its ideas. Still others will remind that teamwork diverges too much from the way academics prefer to work. Or lastly, some will believe that committing to CQI is an explicit admission that "we haven't been doing a good job." These problems may be perceptual and cultural, primarily, but as such they are deeply embedded. But the difficulties don't usually end there.

Operational problems also play a major role. Upper-level management may claim to be committed but will focus its attention on other, more pressing matters. Teams may receive inadequate training to get started. The first projects may flounder, having received an unclear charge or been assigned a poorly defined problem. Managers, unaccustomed or unprepared to assume the very different roles of coach, teacher, and facilitator, may short-circuit the good work of their teams. The list could go on, but the point is made. Implementing CQI, especially at first, can sometimes feel like walking in a mine field, or a reconfirmation of Murphy's Law. But it does have its rewards.

Success with CQI

The story of Belmont University leaves no doubt that CQI has paid off. Susan Hillenmeyer, vice president for quality and professional development, says that "Quality at Belmont has changed employees' work habits, students' attitudes and the community's perception of the institution." Not every institution profiled here can make a statement as confidently; but each one has impressive results to broadcast. Dallas County Community College talks of a "critical mass of employees trained." More than ninety CQI teams have generated process improvements in more than fifteen administrative units and in seven academic colleges at The Pennsylvania State University. Lamar Community College has shifted to an institution-wide, team-based management model. Cornell University hopes to save $1 million through process improvements. Faculty teams

at Northwest Missouri State University have restructured the general education program into a format based upon "TQM concepts of trust, empowerment, and accountability." Almost every campus has started to see CQI activity in either curricular or classroom processes, or both.

But what will "success" mean in the long run? One of my colleagues at AAHE likes to remind me that if we are to encourage the kind of systemic change that CQI requires, we have to refrain from referring to institutions as having two "sides" — administrative and academic. CQI, or any other framework, will be seriously limited if our mental model is one that sees our institutions as divided into two near-adversarial segments. Yet it is difficult to heed her advice, at least so far, if only because the examples of CQI being practiced that way are few and far between. Northwest Missouri State University and the University of Tampa are two of only a few institutions that have planned to integrate both "sides" from the outset. The majority of institutions, and not just the ones profiled here, start CQI on the administrative "side" and may take years (literally) before venturing, ever so carefully, across to the academic "side" to address issues that impact the heart and soul of our institutions: teaching and learning, faculty roles and rewards, reinvented organizational structures, to name a few. Success in the early stages of CQI will be measured by the number of team achievements, the simplification of important processes, and the reduction of costs. The ultimate success of CQI, however, depends on the ability of institutions to use it as a new framework and mindset for thinking about and addressing higher education's most important issues. It is far too early to tell if this will be possible.

What Have We Learned? Where to Next?

Where is CQI heading? To answer this for all of higher education at such an early stage would be foolish. If we look to manufacturing and service sectors, the record for success with TQM is far from exemplary. In 1993, Rath and Strong, a Massachusetts-based consulting firm, ranked a majority of corporate TQM efforts as Ds and Fs. Similarly, Arthur D. Little found in a survey of 500 companies that a slim 36 percent of TQM efforts were having "a significant impact." Our task, then, is to determine what allowed more than a third of these companies to have "significant impact."

A 1993 study cosponsored by Development Dimensions International (a Pittsburgh-based consulting firm), The Quality and Productivity Management Association, and *Industry Week* found that TQM, despite the challenges it presents, remains "the most viable long-term business strategy." Their unsurprising discovery is that CQI does not hinge on just two or three critical success factors. Instead, it hinges on at least thirteen, demonstrating just how comprehensive and integrated CQI needs to be. Those success factors are leadership commitment, training, alignment of organizational systems, recognition and rewards, performance management appraisal, empowerment/involvement, measurement, communication, vision and values, implementation/rollout, supplier involvement, customer focus, and tools/techniques.

Higher education can certainly expect its share of Ds and Fs as it begins to implement CQI. There already are stories filtering back to AAHE about institutions that have thrown in the towel. One of the original institutions for this volume dropped out six weeks before publication because it sensed its efforts had completely fallen off its president's radar screen. David Entin, in the May 1994 issue of *AAHE Bulletin*, reports that of ten Boston-area institutions reported to be implementing CQI in the winter of 1992-93, only five remained involved by mid-1994. Higher education's track record already resembles that of the private sector.

However, the prognosis is not all bad. If twenty-five of the dozens of lead institutions profiled here can be used as any kind of gauge, there's plenty of hope, as well. Many institutions are moving forward, boldly. Some plan to expand training, consultation, and technical support. Others will increase the emphasis on measurement and the development of viable outcome and process measures for key processes. Institutions like The Pennsylvania State University are seriously reexamining existing, deeply embedded institutional policies and practices, including performance appraisals and organizational reward systems. Northwest Missouri State University is in the midst of reinventing its academic governance structure; the University of Tampa has already reinvented its administrative structure into "economic enterprise process teams" and is nine months into doing the same on the academic side. Every campus profiled here plans to expand its academic-oriented CQI activity, if it has not already done so.

CQI for higher education is still far from figured out. If you polled these twenty-five institutions, not one would be resting on its laurels of success or consider the "journey" to be over. The most frequent request from callers to AAHE's CQI Project is for discussion and networking. There are always new battles to wage and uncharted territories to enter — so why enter alone? Some of the greatest resources available are the hundreds of practitioners down in the trenches who have a great handle on one issue, but a weaker one on another. Perhaps one of the greatest needs right now is simply to identify who is "doing" CQI and what experiences and perspectives they can share with the larger higher education community. This book is one way to accomplish that. AAHE's annual conference on assessment and CQI is another. But the greatest levers we have for learning as a community are the ways in which we share with one another on a regular basis. Don't limit your sights. If you're a state comprehensive university, you still have much to learn from private institutions, liberal arts colleges, or two-year schools. Be willing to move beyond your conventional "box" to enhance your learning.

Finally, CQI is not going to be for everybody. It may be seen as a mismatch between methodology and current organizational culture. Or it might call for a culture that is undesirable altogether — too much teamwork, too much power and decision making drifting away from central authority. Or it might be seen as too risky an investment with too little potential for returns. All of these concerns are perfectly valid. But for those who do want to change — despite all the risks and the enormity of change required — the experience of the institutions surveyed here can probably be summed up best with the following points: Be very clear upfront about what you're trying to accomplish by taking on CQI, translate and customize the philosophy for your institution early on, develop a long-term plan, and stick to and embody your commitment. With at least those recommendations in your front pocket, you'll be ready to begin the long ascent up the mountain.

Steve Brigham
Director
AAHE Continuous Quality Improvement Project

GLOSSARY OF TERMS

benchmarking: a process by which to measure your own products, services, and practice against the best in the field. Benchmarks usually include a measure of results and an analysis of the process used to produce those results.

brainstorming: a technique used to generate ideas. Most commonly used in groups, its object is to gather as many ideas as possible in a specific time frame.

cascade approach: an implementation strategy that begins with a master plan launched by the senior officers of an organization and "cascades" down through the organization.

Crosby, Philip B.: among the first Quality professionals to hold a senior management position (vice president of Quality for ITT Corp.). He is credited with creating the approach of "zero defects" for Quality.

cross-functional teams: teams whose members come from several different work units that interface with one another. They are helpful when work units are dependent upon one another for materials, information, and so on.

culture: the prevailing pattern of beliefs, behaviors, attitudes, and values of an organization.

customer: the recipient of the outputs of a body of work, or the purchaser of the organization's product or service.

data: information or a set of facts presented in descriptive form. Data is either measured (variable data) or counted (attribute data).

Deming, W. Edwards: the world's best-known Quality expert, now deceased. He introduced statistical and "Quality" concepts to the Japanese beginning in 1950 and achieved fame in 1980 at the age of eighty following the TV documentary "If Japan Can, Why Can't We?"

flow chart: a graphical way of using symbols to identify the operations involved in a process, their interrelationships, inputs, and outputs. Flow charting is usually the first step in understanding selected processes in an organization.

force field analysis: a technique for identifying the forces for and against a certain course of action or condition; sometimes called the "helping" and "hindering" forces.

Juran, Joseph M.: his *Quality Control Handbook* became a Quality bible in the U.S. and Japan but, like Deming, his work was better received in Japan. Juran defines Quality as "fitness for use" and advocates a project approach to implementation.

just-in-time (JIT) training: to deliver training to an individual, team, or project at just the moment it is needed.

Malcolm Baldrige National Quality Award: an annual award to recognize U.S. companies (manufacturing, service, and small business) that excel in Quality Management and Quality achievement.

management-by-fact: a management process in which actions and decisions are based on facts and data, not opinions. Management-by-fact requires (1) asking appropriate questions; (2) correctly interpreting answers to verify the quality of the data and facts; and (3) verifying the correct use of data, facts, and statistics in the work process and decision-making process.

nominal group technique: a tool for generating ideas; solving problems; and defining the mission, key result areas, performance measures, and goals/objectives.

Plan-Do-Check-Act cycle: a structured method for Quality Improvement and problem solving that identifies, selects, and analyzes problems; generates and plans solutions; and implements and evaluates those solutions; also known as Plan-Do-Study-Act.

process: a series of operations or activities linked together to provide a result that has increased value.

process improvement: activities employed to detect and remove common causes of variation in order to improve process capability.

Project LEARN: first developed by Samford University, this process links student teams with professors to make course improvements throughout the semester.

profound knowledge: the core of Deming's Quality philosophy, based on four principles: understanding of a system, statistical theory, theory of knowledge, and knowledge of psychology.

quality function deployment: a technique to build customer requirements into a product design or service process to ensure that customer requirements are met.

seven management tools: tools used to solve problems when data is not readily available, must be rearranged, or is taken from subjective descriptions rather than from data bases; typically used to solve management-level problems. The tools are (1) activity network diagram, (2) affinity diagram, (3) interrelationship diagraph, (4) matrix diagram, (5) prioritization matrices, (6) process decision program chart, and (7) tree diagram.

> **activity network diagram**: used to plan the most appropriate schedule for any complex task and all of its related subtasks. It projects likely completion time and monitors all subtasks for adherence to the necessary schedule.
>
> **affinity diagram:** gathers large amounts of language data (ideas, issues, etc.) and organizes it into groupings based on the natural relationship between each item.
>
> **interrelationship diagraph**: takes complex, multivariable problems or desired outcomes and explores and displays all of the interrelated factors involved. It graphically shows the logical relationships between factors.
>
> **matrix diagram:** shows the connection (or correlation) between each idea/issue in one group of items and each idea/issue in one or more other groups of items. It is frequently used to determine who has the responsibility for the different parts of an implementation plan.
>
> **prioritization matrices**: these take tasks, issues, or possible actions and prioritize them based on known, weighted criteria.
>
> **process decision program chart**: maps out every conceivable event and contingency that can occur when moving from a problem statement to the possible solutions.
>
> **tree diagram**: systematically maps out in increasing detail the full range of paths and tasks that need to be accomplished in order to achieve a primary goal and every related subgoal.

seven statistical tools: graphical and/or numerical mathematical methods that assist in the analysis of a process or population of things. The seven most commonly used are (1) cause-and-effect diagrams, (2) check sheets, (3) control charts, (4) histograms, (5) Pareto charts, (6) run charts, and (7) scatter diagrams.

> **cause-and-effect diagram:** a graphical technique that illustrates the cause of a specific outcome; also known as a fishbone diagram or Ishikawa diagram.
>
> **check sheet:** a tally sheet used to gather data based on sample observations in order to identify patterns.

control chart: a graphical way of identifying whether an operation or a process is in or out of control and of tracking the performance of that operation or process against predetermined control and warning limits.

histogram: a bar graph showing the frequency with which events occur by displaying their distribution. Since random samples of data under statistical control normally follow a "bell-shaped" curve, the shape of a histogram's distribution is especially helpful in understanding variability.

Pareto chart: a bar graph showing where scarce resources should be applied to reap the greatest gain. The rule of thumb is that 80 percent of problems arise from 20 percent of potential causes.

run chart: a graphic that shows the simplest possible display of trends within observation points over a specified period of time. Points are plotted on a graph in the order in which they occur. The purpose is to identify the truly vital changes in a process or system.

scatter diagram: a diagram consisting of a horizontal axis representing the measurement values of one variable and a vertical axis representing the measurement values of a second variable. Events are plotted and used to test for correlations and possible cause-and-effect relationships.

zero defects: a goal in which organizations strive to reach a level of perfection in their processes and products so that the end result is defect free.

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25 SNAPSHOTS OF CAMPUS PRACTICE

BABSON COLLEGE

The Institution

Founded in 1919 by financier and entrepreneur Roger Babson, Babson College, located in Babson Park, Massachusetts, grants the bachelor of science and master of business administration degrees and offers advanced training for corporate managers through the School of Executive Education. The college enrolls approximately 1,600 undergraduate students, more than 300 full-time graduate students, and approximately 1,200 part-time graduate students from most of the fifty states, many U.S. territories, and more than sixty foreign countries.

Reasons for Embracing CQI

Babson's president, a former vice chair of Xerox Corporation, was one of the founders of Xerox's Quality strategy. When he assumed the presidency of Babson College in 1989, he was convinced that higher education could apply the same concepts to more effectively meet the needs of its multiple constituents, including students, employers, alumni, and parents.

Babson embraced CQI in response to criticism from the business world that business school graduates lack the skills essential for global competitiveness, including familiarity with Quality principles, the ability to integrate across functional disciplines, and leadership ability. Higher education has been heavily criticized by its constituents for failing to continuously improve its educational programs and administrative support services. Even schools that teach Total Quality often don't practice what they preach. Babson believes it must be able to demonstrate a commitment to Quality principles in managing its organization.

Over the past twenty years, higher education has experienced greater price increases than nearly any other industry, which has resulted in the cost of higher education being prohibitively expensive for many prospective students. Babson College has pledged that its future price increases will not exceed increases in the Consumer Price Index by more than 1.5 percent. To contain costs while simultaneously implementing new strategic initiatives, Babson must improve its current processes. Without a CQI strategy in place, Babson believed that the college's long-term financial viability and future development would be threatened.

Getting Started

Babson's CQI implementation had impetus from two areas:

- An ad hoc group consisting primarily of faculty (who labeled themselves "Quality Folk") generated interest in CQI across campus, discussed how to advance Total Quality within the college, and obtained corporate funding to further the research and teaching of Total Quality. The formation of this group allowed the initiative to "bubble up" from within the organization.
- The president and his cabinet (which includes all vice presidents and deans) agreed to implement Total Quality training for all administrators and staff to develop the skills they would need to apply the tools and techniques of Quality Improvement. This provided "top-down" commitment to the use and practice of CQI.

Strategic Framework

The influence of CQI in the management of the college began with the development of the college's strategic plan for 1991-95. More than 100 members of the Babson community, including faculty, administrators, students, alumni, and trustees participated in the process. After the basic principles underlying the plan were established at a high level, each division developed its own supporting strategies and objectives, with timetables and methods for evaluating results.

During the CQI project's pilot phase (June 1991-June 1992), all interested administration and staff members were encouraged to attend a three-day Total Quality training program. During this time, several demonstration projects also were initiated.

The president established Babson's Office of Quality in June 1992. It includes one full-time administrator, who is responsible for CQI training and the implementation of CQI in the administration of the college; and one faculty member, who was released from one-half of her teaching responsibilities to work with the faculty on CQI involvement and the implementation of CQI in academic programs.

To accelerate the training and implementation of CQI, ten "Quality specialists" from Babson's faculty and administrative staff participated in an intensive "train-the-trainers" workshop in February 1993. Members of this group delivered a three-day introductory workshop to all staff and subsequently serve as internal Quality consultants.

Obstacles

Babson cites the following obstacles to CQI implementation:

- Translating "corporate" models and jargon into som thing more appropriate for and acceptable to the culture of higher education and Babson College. For example, agreeing on who the "customer" is (or if there even is a customer) is often challenging in an academic environment.
- Determining the best method to engage faculty. Given faculty resistance to Quality concepts and terminology (which come from the business world) and their skepticism surrounding the long-term prospects for TQM, it has been quite challenging to determine the best method to obtain faculty commitment to and involvement in CQI.
- The lack of an initial agreement and strategic plan for CQI that included a vision, mission statement, and specific goals and objectives for CQI. Without a comprehensive strategy in place, the college could not determine the pace at which change should happen or the institution's long-term "desired state."
- Loss of motivation or delays in the problem-solving cycle. Without readily available coaching and resources, some Quality Improvement teams were unable to maintain an adequate pace or overcome some of the inevitable obstacles to problem resolution.
- Thinking and problem solving "across boundaries." Most of the priority issues and challenges for the college cross many traditional divisional and departmental boundaries. It has been challenging to help groups identify methods of addressing these larger issues that cross the artificial boundaries that exist within most functional organizational structures.
- Lack of agreement on the interpretation of customer satisfaction survey data and what to do about it. Translating data and information from customers into specific change elements has been a key challenge as Babson moves forward with the concepts of "management-by-fact" and "customer focus."

Key Successes

Babson cites numerous successes and accomplishments gained through its implementation of CQI, including the following:

- A complete redesign of the MBA curriculum implemented in Fall 1993 and the initiation of curriculum reform in the undergraduate program beginning in August 1993.
- Major changes to a number of areas, including the freshman advisory program, financial aid, the library, and the daily operations of the information technology and services division. One particular project success to date has involved the enrollment process for graduate admissions. The graduate admissions office staff discovered that eight mailings were being sent to accepted students. They used a seven-step problem-solving process to combine these mailings into one packet. The new packet eliminated 220 staff hours previously used in producing the mailings, plus additional time spent tracking missing forms. Results of a survey of new students indicate that the new acceptance packet significantly influenced twenty-two students to enroll at Babson.
- Surveys of key constituents, including current undergraduate students, recruiters and employers of Babson graduates, and prospective MBA students, in order to better understand "customer" satisfaction and expectations.
- Successful development and delivery of "Quality Camp," a special week-long TQM training session for selected students that enables them to learn more about the challenges the college faces and to become involved in or launch Quality Improvement teams to tackle specific issues.
- Implementation of "Quality specialists," a group of ten individuals from a variety of positions in the college who agreed to donate approximately 20 percent of their time to CQI.
- Two Office of Quality open houses, where groups presented Quality Improvement projects and displayed the results of their team efforts. Each open house drew more than 100 campus community members, which allowed the attenders to better understand the CQI initiatives currently under way.

Academic Activity

- **CQI in the curriculum**

  Since Fall 1991, Babson has offered full-semester courses on TQM at both the graduate (MBA) and undergraduate (BSBA) level. Quality topics also have been integrated in a variety of courses in various disciplines, including operations management, marketing fundamentals, managerial accounting, and corporate strategy. A total of fifteen courses include CQI-related topics, ranging from 10 to 50 percent of the course content.

- **CQI in curriculum design**

  Babson's new MBA program implemented in Fall 1993 was designed with significant input from the college's corporate customers and current students to better meet the needs of Babson's constituents. The new curriculum discards the traditional functional course program concept in favor of five thematic modules. Faculty from functional disciplines teach "units" related to their specialties within the modules. This change has required extensive integration and coordination among the many faculty involved in each module.

  Undergraduate curriculum reform was initiated in August 1993, when nearly 100 people from the Babson community participated in a three-day strategic-planning event

to identify current issues and priority areas for curriculum reform. Participants included more than one-third of Babson's full-time faculty, as well as administrators, students, alumni, parents, and employers. The retreat enabled the college to communicate "customer satisfaction data" results from alumni, students, and employers. Four major task forces were formed to tackle the following areas: academic regulations, core competencies, field-based learning, and curriculum integration.

- **CQI in teaching methods**
  A number of faculty are experimenting with ways to obtain more input from students about the teaching process. This includes "fast feedback" at the end of each class and mid-point reviews and evaluations. Other experiments are being conducted, such as including students in course design and development. For example, one faculty member breaks students into teams during the first class and gives them a list of suggested "deliverables" for the course. The faculty member then helps the students come to a consensus on the list of deliverables and their respective proportions of the final grade. This information then is added to the course syllabus, thereby involving and empowering students in the design of the course.

Faculty Resistance to CQI

Issue-based involvement in CQI (engaging faculty in active problem solving within areas they believe to be important) at Babson has created much interest and enthusiasm. For example, the college used Quality tools and techniques in a three-day faculty retreat focused on undergraduate curriculum reform. By focusing on the overarching goals and issues, Babson was able to use Quality tools and techniques to establish a compelling need for change, understand "customer" expectations, manage by fact, and launch the problem-solving process.

Babson delivers Quality tools and techniques "just in time" to its faculty Quality Improvement teams. Although the three-day training program involves a significant investment of time, faculty seem to respond more favorably to exploring the application of tools and techniques as they relate to a particular issue.

Next Steps

Babson's next steps in its CQI implementation include the following:

- January 1994: New employees will receive an introduction to CQI as part of their orientation. Storyboards will be placed in two strategic locations on the campus to highlight the implementation process and the results that particular teams have achieved.
- February 1994: The college will begin to develop a five-year strategic plan for CQI that includes a vision, mission statement, statement of shared values, and goals and objectives for CQI.
- March 1994: Additional Quality specialists will begin training, with a more concentrated focus on how to most effectively deal with the facilitation and coaching of faculty groups.
- April 1994: The college plans to develop and implement a customer satisfaction measurement architecture that will establish a timeline and frequency intervals for the survey of key constituent groups and will develop the internal resources necessary for future iterations.
- June 1994: A two-day Alumni TQM College will focus on CQI tools and techniques and also will provide Quality Management networking opportunities for Babson alumni.

- August 1994: Quality Camp II, the second week-long CQI training and team-building opportunity for undergraduate students, will prepare students for campus-wide CQI projects and activities.
- 1994-95: The college will undertake a self-assessment using the Baldrige Award criteria. Advanced training will be offered on particular CQI-related topics, such as benchmarking, the role of the manager, affinity diagrams, and others.
- Ongoing: Babson plans to continue its networking and involvement with various professional organizations and other institutions of higher education to facilitate and accelerate the implementation of CQI in higher education.

Hindsight

Babson would have developed a strategic plan for CQI before beginning implementation. This would have enabled the college to (1) achieve a common understanding of the organization's starting point with respect to CQI (the current state), (2) articulate the organization's goals with regard to the use and practice of Quality Management tools and techniques (the desired state), (3) create an understanding of the "gap" between the two states and the specific goals and objectives needed to close the gap.

Babson also would clearly establish a compelling reason for and expectation of faculty involvement in the Continuous Improvement and change process.

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BELMONT UNIVERSITY

The Institution

Belmont University, located in Nashville, Tennessee, is a coeducational liberal arts institution affiliated with the Tennessee Baptist Convention. The university currently enrolls more than 2,800 students. Undergraduate degrees are offered in forty-six major and forty-five minor areas of study within the university's six schools: business, humanities, music, nursing, religion, and sciences. Graduate degrees are offered in education, music education, business administration, and accounting.

Reasons for Embracing CQI

Belmont was not responding to any particular pressures, forces, or needs when it decided to implement CQI. In fact, Belmont's traditional indicators of success — enrollment, endowment, capital projects — showed positive trends. If there was a "root cause" of the university's effort, it was centered around a desire to take Belmont to a different level. Belmont's president and other leaders developed an interest in CQI via study, reading, and partnership with business. Quality became a way to focus the institution's energies to continue a positive trend. Belmont actively undertook Continuous Quality Improvement in 1990, when the president made a personal commitment to change the way the university was led and managed.

Getting Started

The president has been the driving force behind Belmont's foray into CQI. In 1989, the current vice president for quality and professional development came to Belmont to research the implementation of Quality at the university. She assumed her position in 1990 and formed the Center for Quality and Professional Development. The special assistant to the president organized the first Introduction to Quality sessions for employees. The office of admissions and the registrar's office were identified as "pilot teams" and began the PDCA cycle (P - Plan an improvement; D - Do it on a small scale or for a limited amount of time; C - Check the results of your study; and A - Act to improve the process/system through standardizing the improvement.)

Strategic Framework

The Center for Quality and Professional Development has become Belmont's internal training source. The president invited a Quality Steering Team of senior campus leaders to guide the initiative and to help Belmont focus its planning efforts on Continuous Quality Improvement. The vice president for quality and professional development is the internal coach for organizational improvement.

The following groups are part of the Quality strategic framework:

- University-Wide Planning Commission. The commission is made up of Belmont faculty, staff, administrators, members of the board of trustees, community leaders, and alumni. It was chartered as a direct result of Belmont's CQI effort and came out of the university's visioning and values planning (years one and two of the effort).

- Existing Campus Committee Structure. Belmont has a committee structure that handles standing issues. The committee structure was streamlined by the Committee on Committees in 1991. The committees are organized around Southern Association of Colleges and Schools criteria. Many of these committees use Quality team methodology and tools.
- Cross-Functional Improvement Teams. Belmont teams have translated Quality values into operational requirements. As teams are formed, they must answer the question, "What is our aim and how does it relate to Belmont's values and vision statements?" These teams are the lifeblood of the university's Quality effort.
- Work Unit Quality Teams. These teams operate within their work units and report to the Quality Steering Team how their customers will be affected by the Quality Improvement process. After these teams have completed their work, they demonstrate, in management presentations, how their customers are better served.

Obstacles

Business terminology initially impeded Belmont's progress. Faculty resisted the notion of using something "invented in the business world" to improve education. Belmont's middle managers often took the most convincing about approaching their work in a different way. All employee and team participation in Belmont's Quality efforts has been voluntary.

Another significant obstacle has been Belmont's reluctance to examine the tough issues. After almost five years, the university is finally beginning to tackle its most difficult problem areas — reducing waste in major cross-functional processes, redistributing work instead of hiring more people, and eliminating or changing policies as a result of improvements.

Key Successes

Quality at Belmont has changed employees' work habits, students' attitudes, and the community's perception of the institution. (In research conducted by Belmont's director of quality research, students began to note "Belmont's commitment to Quality" as an indicator of satisfaction by Fall 1992.) These changes have improved student learning, methods of instruction, the curriculum, student services, faculty scholarship, faculty/staff development, planning, and budgeting. The director of quality research and the provost collect data that measures the university's overall internal level of Quality. These barometers include:

- Customer satisfaction. Students complete surveys during registration, and their responses are used to track satisfaction rates from semester to semester. Open-ended questions allow students to make suggestions — all of which are taken into consideration by the Quality Steering Team.
- Incoming student perceptions. The office of admissions surveys admitted students to learn their perceptions of Belmont. The data is nationally normed to allow for comparisons with other institutions.
- Teaching effectiveness. Course evaluations distributed at the end of each semester measure the effectiveness of the coursework. A new form of evaluation, the LEARN process (see **Academic Activity),** collects data throughout the semester.
- Team process-improvement surveys. Many teams conduct surveys to better understand their customers. The following areas have conducted surveys: parking, student life, long-range planning, food services, campus events notification, and wellness.

- Financial data. Budgets and actual revenue and expenditure data are used to determine how the institution's resources are being used to further the university's vision.
- Plant operations tracking. Plant operations tracks its asset usage (both human and mechanical) on a weekly basis to determine where workers and equipment are most needed.
- Student, faculty, and staff information. The university keeps records on all current and former students, class enrollments, and staff on its DEC VAX computer. This information can be cross-referenced and sorted for data collection purposes.

One of the most notable results of CQI implementation has been the formation of teams on campus. Faculty and staff began forming teams to begin initial Quality improvements during the early stages of Belmont's effort. During that time, it was easy to track what teams were operating and what was being accomplished. Today, it is nearly impossible to know how many teams are functioning at any given time. Teamwork has become so common that employees no longer feel the need to report that a team has formed.

Two major areas targeted by improvement teams are improved communication and the accessibility of administrative leaders. One team conducted focus groups and surveys to determine perceptions of administrator accessibility and then made recommendations that were adopted by the Quality Steering Team. A repeat focus group and activity report measured the degree to which those ideas were implemented. The third year of results indicate that there is significant improvement in administrator accessibility, although it is still too early to state that a definite trend has been established.

Academic Activity

Currently, CQI is used to evaluate courses. The process, known as LEARN, links a student team with the professor to make course improvements during the semester. This is an alternative to the traditional end-of-term evaluations. The process gives the students a sense of participation in their education by allowing them the opportunity to provide feedback throughout the term. The professor benefits from a better understanding of students' needs.

Belmont is considering offering graduate courses in Quality and Quality certification for undergraduate students.

Faculty Resistance to CQI

Faculty resistance is countered through the faculty Quality Improvement Team, which has met for more than a year to share learning in Quality. Faculty's primary resistance concerned CQI's "corporate" terminology. Initially, their difficulty with Quality concepts had to do with such practices as viewing students as "customers." Now, most seem willing to get beyond that to study CQI's value. The faculty Quality Improvement Team is organizing Quality seminars to help educate faculty about how Continuous Improvement can help in their work. The seminars include sessions on personal Quality, change, vision, and alternative teaching methods. Quality training at Belmont has never been mandatory, yet many faculty members have chosen to participate. The upcoming seminars will be taught by the provost; the president; and several faculty, including humanities, science, and honors faculty.

Next Steps

The university has just completed a long-range planning effort, which indicated that more formalized benchmarking practices were needed. A benchmarking team manual has been developed for use by individual teams and departments. Belmont also realizes that incremental improvements are possible with the Quality efforts that have gone on over the past four years. Benchmarking, however, will help the university to make further breakthrough improvements.

Belmont received a level-three Tennessee Quality Achievement Award (with level four being the highest). Fifteen institutions won level-three awards, and two won level-four awards. The feedback from that award process is driving the campus improvement efforts for 1994. There are other major team initiatives under way intended to reduce waste, reduce budget cycle time, revise policy, and align mission/values/stakeholders. These teams will report within the next eighteen months. Belmont also plans to continue to expand its data gathering for Quality function deployment (QFD) and improved service.

Hindsight

Belmont would have put emphasis on "personal Quality" earlier in the implementation process (in other words, "What can I use to make my job easier, my work better, my life better?"). The university also would have considered more carefully the issue of team and individual rewards. The institution needs a way to recognize people differently and better.

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CORNELL UNIVERSITY

The Institution

Cornell University is composed of thirteen colleges; eleven are located in Ithaca, New York, and two — Cornell Medical College and the Graduate School of Medical Sciences — are located in New York City. Cornell is an Ivy League university, as well as New York State's land-grant institution. Cornell has 12,800 undergraduate students and 6,200 graduate and professional students.

Reasons for Embracing CQI

Cornell cites skyrocketing tuition, duplication of efforts in both academic and administrative areas, a reduction in resources, and an ever-increasing public demand for accountability as reasons for its implementation of the Quality Improvement Process (QIP), Cornell's version of the Total Quality Management process.

Getting Started

The president, provost, and senior executive staff actively support and participate fully in QIP initiatives. The senior vice president provides campus-wide oversight and direction. There are twenty-one problem-solving teams and fourteen leadership teams across the university. The departments that initiated these teams include Cornell information technologies, facilities and campus services, the university controller's office, the university bursar's office, department of Cornell police, School of Human Ecology, and the College of Veterinary Medicine.

Strategic Framework

The Quality Improvement Process was viewed by Cornell's CQI champions as a way to improve the quality of service, education, and scholarship by encouraging teams of Cornell staff, students, and faculty to solve problems cooperatively. The QIP process was reinforced by six guiding principles adopted by Cornell's Quality Council in May 1992. These six principles provide the underpinning for the university's Quality effort:

(1) valuing scholarship, learning, and service
(2) satisfaction for those whom we serve (customers, clients, coworkers)
(3) respect for people
(4) stewardship
(5) Continuous Improvement
(6) management-by-fact

There are two Quality administrators. The first provides support to the senior vice president for broader institutional missions; maintains contacts with other institutions, agencies, and foundations; supports faculty efforts related to Quality Improvement; and facilitates corporate partnerships and college-level activities. Additionally, this administrator provides support to the university's human resource services department for teams implementation, coordination, and QIP educational programs. The second Quality administrator works in

university human resource services, providing logistics support for QIP team implementation and coordination and assistance for all QIP training and educational programs.

Obstacles

Cornell cites several obstacles to its QIP implementation:

- Cornell initiated QIP with problem-solving teams instead of task teams. The first teams had new team leaders, new facilitators, new team members, and new lead team members. No one had ever worked through the seven-step Quality Improvement process. Not only were the team members uncertain, but the facilitators, team leaders, and lead teams also were feeling their way. The problem-solving teams were chartered by the lead teams to deal with interesting issues instead of departmental priority issues. In many cases, the teams did not have clearly stated objectives nor did problem-solving teams understand their accountability to the lead team or by what measures their success would be determined. As a result, the first several teams were generally consumed by getting organized, establishing the dynamics, and wrestling with a new process. The long organization phase resulted in lengthy waits for results.

  Cornell now believes that it first should have chartered "task teams," with senior-level champions, to address more narrowly defined issues, base indicators, and expectations for timeliness. Cornell currently utilizes this system, and the teams are functioning much more efficiently.
- Not all areas applied a readiness test before implementing QIP. The university discovered after teams were implemented in several areas that those areas did not have in place the foundations or support for a long-term commitment to team activities.

  The Quality Improvement Readiness Survey was implemented at Cornell to help departments, divisions, and colleges determine what might be needed to support team activities. By addressing such issues as work environment; communications management; organizational goals; assessment of customer needs; and general understanding of the organizational mission, vision, and values, the survey identifies potential problem areas before Quality processes are implemented.
- Senior management was not broadly educated in QIP/TQM. When Cornell began its Continuous Improvement efforts and teams activities, QIP was viewed as a process outside of the general day-to-day business procedures of the university. Senior management did not have a basic understanding of what it takes to make teams work effectively (i.e., support, communication), and expectations for team success were not clearly articulated throughout the organization.

  Through the use of a "leadership for Quality" training program, Cornell's senior managers are becoming more aware of the importance of a culture change and how the concept of teamwork can significantly impact the way the university does business.
- QIP organizers underestimated the work involved in having consultant materials adapted to the university environment. Consultants working with the TQM process provide materials that are based primarily on corporate experiences and that have corporate examples. Although the administrative areas of the university can easily assimilate this information, academic/faculty areas cannot. Developing material to work in Cornell's academic culture required input from all of the university's constituents. Cornell learned that it needed to

develop case studies, train a cross-section of faculty and staff to become instructors, apply adult learning models, and become more creative in the application of TQM tools and techniques in a university setting.

- Management did not understand that the QIP effort was a multi-year process that would fundamentally change Cornell's organizational culture. The leadership of both the academic and administrative sides of the university need to understand where Cornell is as an organization today and where it needs to be in the future. By addressing these questions through strategic-planning and college- and unit-planning efforts, and by assessing what skills will be needed to manage in a changing environment, Cornell's leadership can take steps to achieve its goals. This is an evolutionary process that will take several years to fully integrate.

Key Successes

QIP at Cornell has generated a wide variety of successes and accomplishments:

- To date, more than 450 Cornell staff and faculty have been trained to use QIP tools and techniques, and an additional 500 have participated in the QIP Awareness Programs.
- A Cornell QIP curriculum is in place, using Cornell case studies and instructors.
- Lead teams receive leadership education, which includes building missions, vision, and values; managing a team environment; using systems-thinking concepts; and developing direction for teams.
- Three major cross-functional teams are in place: the student communications and mailings project, academic appointments, and the mail operations project. The combined efforts of these three projects to improve systems and processes should generate more than $1 million in savings over the next several years. Indirect spin-off efforts should continue to generate additional efficiencies and savings each year.

The problem-solving and service teams' solutions have generated numerous efficiencies and opportunities for cost avoidance, enabling various units and departments to continue to meet university budget-cutting requirements while improving overall programs and services. For example, the campus store team implemented bar code scanning to eliminate the need to ticket literally millions of products. Bar coding is a far more efficient process that saves the store thousands of labor hours and dollars. The bursar team reduced the number of students who come into the bursar's office during registration. Of 2,768 students surveyed in Fall 1992, 1,079 (39 percent) waited in line for payment inquiries. The bursar's office has reduced this number by 25 percent with a simple modification to the bill at a negligible cost, greatly improving customer service and staff efficiency.

The Cornell/Proctor & Gamble Partnership and the Pews Roundtable are two major initiatives that have helped to achieve a greater campus-wide awareness of QIP and faculty to improve or rethink teaching, curriculum development, and research.

Academic Activity

The following are specific examples of QIP activities in the academic area:

- The College of Engineering used TQM tools and techniques to evaluate the results of an in-depth survey on how to improve the freshman and sophomore experiences.
- The Johnson Graduate School of Management developed a curriculum for teaching TQM using the Malcolm Baldrige National Quality Award criteria as an outline.
- In the School of Industrial and Labor Relations, a professor is using Total Quality principles in his research (specifically, as they apply to his work in large-scale organizational change).
- In the College of Veterinary Medicine, an anesthesiologist is teaching vet medicine using TQM tools and techniques in a lecture setting.
- The College of Agriculture and Life Sciences has held a major retreat for all department chairs, key faculty, and administrative managers to discuss the use of Total Quality applications throughout the college — most particularly in curriculum redesign.

Faculty Resistance to CQI

Cornell has experienced some faculty resistance, which it has addressed in the following ways: The university (1) works with key deans and faculty on specific initiatives related to Continuous Improvement and leadership, (2) fosters collaboration within and among academic colleges and disciplines, (3) supports corporate and educational partnerships and initiatives, and (4) supports the education and corporate network and alliances.

Next Steps

Cornell's next QIP efforts will be to establish an ongoing commitment to and support for university-wide training, ensure that QIP teams receive support and understand important college/unit university priorities, strategically manage the reengineering of major university administrative processes, and continue to coordinate and support activities in the academic and corporate areas.

Cornell has begun a three-year strategic-thinking effort called the Academic Leadership Series Program. This program is designed to engage a broad cross-section of Cornell's faculty in designing the academic future of Cornell.

Hindsight

In hindsight, Cornell would establish the Quality Council from an already existing senior-level group so that it would be a natural part of the university's day-to-day operating structure. In addition, Cornell would establish an evaluation process at the outset to help measure the impact of the major university-wide cultural change that accompanies QIP.

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DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

The Institution

The Dallas County Community College District (DCCCD), located in Dallas County, Texas, serves the greater Dallas area and its surrounding suburbs. The DCCCD comprises seven comprehensive, independently accredited colleges; an economic development institute; and a supporting district office and service center. The DCCCD ranks as the largest undergraduate institution in Texas and among the six largest community college systems in the United States. During Fall 1993, approximately 52,000 credit and 40,000 noncredit students were enrolled. More than 2,000 employees are employed full time by DCCCD, including approximately 720 faculty. The district also employs several thousand part-time staff and adjunct faculty members.

Reasons for Embracing CQI

In 1990, the new chancellor reorganized the district's leadership into what is now called the Chancellor's Cabinet. This group is composed of the chancellor, seven college presidents, one provost, and three vice chancellors.

Simultaneously, several forces were stimulating and reinforcing interest in TQM. In Texas and Dallas County, as elsewhere in the country, the focus was on building a highly skilled and knowledgeable work force to strengthen economic development. The time was drawing near for self-study and reaccreditation. TQM was viewed as a vehicle for planning, analysis, and Continuous Improvement. The district wanted to strengthen partnerships with business and industry, secondary education, and other community groups. TQM was seen as a management strategy for serving students and developing closer ties with other customers.

In addition, the board of trustees, the chancellor, and other DCCCD cabinet members were moving from a more centralized to a more decentralized administration. By increasing the colleges' and institute's empowerment, it was believed that the district would become more flexible and responsive. TQM was viewed as an exciting way to increase "organizational nimbleness" by improving work processes vertically and horizontally from the standpoint of meeting customers' needs.

Getting Started

In 1991, under the chancellor's leadership, the cabinet actively began to explore TQM for DCCCD. Meanwhile, the vice chancellor for business services sent some of the business services personnel to TQM training out of state. When they returned, this small group of individuals piloted a couple of teams to "try on" the Continuous Improvement process in their areas. Their efforts were deemed successful and served to influence the cabinet to learn more about TQM. Also, the Bill J. Priest Institute for Economic Development exercised leadership in arranging for training within DCCCD and developing TQM training for local business and industry.

Strategic Framework

To date, the DCCCD's Chancellor's Cabinet has functioned as the district-wide TQM steering body. Discussion is in the early stages about whether or not it would be better to establish a cross-functional, district-wide Quality council. DCCCD's various locations all are organized

a bit differently: Some have steering teams, some do not; some steering teams are cross-functional, some are composed only of the location's administrative leadership. In one location, a steering team was formed; then, as TQM took hold throughout that location, the decision was made that TQM would grow stronger if the steering team were disbanded.

DCCCD trains "coaches" as part of its TQM implementation. A coach's primary responsibility is to support a team. Early in 1992, when "coaches" were being trained in significant numbers, a district-wide group was formed called the Coaches Academy. More than two hundred coaches belong to the Coaches Academy. The purpose of the academy is to communicate about TQM-related matters. Also, the academy is committed to furthering its learning about TQM and Deming's "profound knowledge." In 1993, an administrative position, the district director of quality and planning, was created to support the academy and other district-wide TQM efforts and objectives.

Obstacles

DCCCD cites size, planning needs, and resistance to change as key obstacles to its TQM implementation. DCCCD considers its size both a strength and an obstacle. Being large means DCCCD has many resources; however, being large also creates communication and decision-making challenges. For example, the process of decentralization has raised as many questions as it has provided answers.

While TQM is encouraged — not mandated — by DCCCD's leadership, a need for more planning has become apparent. The district's strategic plan is being discussed in light of the need to incorporate more formal TQM planning into the existing strategic plan. The basic response to TQM appears to be enthusiastic and favorable. However, fear of change and resistance to change do exist in some areas.

Key Successes

DCCCD cites the following key successes and accomplishments:

- A critical mass of employees is trained in how to apply the Continuous Improvement process.
- Teams and individuals are working to continuously improve everything from classroom teaching to facilities management using TQM tools and techniques.
- Three district-wide task forces have used or are using the seven quality management and planning tools. One task force worked to improve DCCCD's technical/occupational programs and another task force is working on DC-NET, the district's distance-learning system. The third task force is developing a district-wide plan for enrollment management planning.
- Meeting management has improved dramatically. TQM coaches facilitate meetings that are run with predeveloped agendas and ground rules. Each meeting ends with participants evaluating that meeting.
- The Bill J. Priest Institute for Economic Development is a regional provider of TQM training funded by the Suppliers Consortium (Motorola, Texas Instruments, and others) to ensure manufacturers' compliance with consortium companies' standards.

Academic Activity

DCCCD's steady progress in TQM implementation on the academic side includes the following:

- DCCCD formally guarantees transfer and technical occupational education. Developing the guarantee policy and communicating it to the public are major accomplishments.
- A significant number of faculty are trained to use a computerized curriculum-development tool called PEAKS. It provides a system for faculty members to plan, deliver, and evaluate their courses and programs. Instructors are developing performance-based syllabi, lesson plans and/or modules, and different types of exams.
- Vice presidents of instruction, division deans, and instructional support personnel are learning about and supporting TQM practices.
- Faculty are using their discretion in "trying on" TQM in the classroom. There are numerous examples of faculty using tools for classroom preparation and monitoring performance. Also, some instructors have incorporated student teams as part of their teaching/learning methodology. In addition, some instructors are teaching TQM tools and strategies in conjunction with established subject matter to promote interdisciplinary learning.
- DCCCD has both TQM contract training and noncredit offerings. A TQM credit course is scheduled for delivery in the fall of 1994.

Faculty Resistance to CQI

DCCCD's leadership communicates to faculty that TQM is a "want to," not a "have to." They are encouraged to learn about TQM and experiment with it in ways that do not interfere with academic freedom. The district is committed to investing in faculty training. Faculty also are encouraged and supported to attend professional conferences and visit other institutions in order to "benchmark" the best in their disciplines, technological advancements, and pedagogical breakthroughs.

Currently, no formal plan exists for involving faculty in TQM efforts at DCCCD. Faculty have an open invitation to participate in TQM training and presentations. DCCCD points out that there is little to resist because faculty's participation or lack of participation has no bearing on their performance evaluations.

The strategy of the Chancellor's Cabinet is a preventive one based on an assumption of implied resistance. For example, because of documented faculty discomfort with TQM language taken from the business world, the cabinet members believe it is important to encourage a lot of conversation about TQM so that the district's own language develops. Also, the cabinet has learned that TQM is an evolving management and change process, not a program; therefore, implementation boundaries are defined, rather than timelines.

Next Steps

DCCCD's next implementation steps involve more planning, training, and alignment with the district's local constituencies of students, business and industry, four-year institutions, and community taxpayers. The district continues to move forward on examining key processes. For example, a task force is studying and recommending an enrollment management/marketing system. DCCCD's executive leadership is in the process of determining how to have the organization examine itself against universally accepted criteria, such as those in the Baldrige Award.

The planning and development affairs division is focusing on breakthrough planning for the institutional research function, information and analysis. The purpose of the planning is to deliver better information and analysis products and services to all customers. Products and services include providing data and information for reporting and Quality uses. Outputs and outcome measures are defined for the DCCCD's aligned strategic plan to respond to reporting requirements. Awareness exists for the need to develop and add Quality measures to the plan. This need will be studied as part of the breakthrough planning.

Hindsight

Using 20/20 hindsight, DCCCD would have benefitted from more training prior to making TQM implementation decisions. For example, more extensive training for the senior leadership and key location leaders might have led to more extensive planning in the early going. Also, if procedures had been in place for chartering and managing teams, teams might have produced significant results more quickly.

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DELAWARE COUNTY COMMUNITY COLLEGE

The Institution

Delaware County Community College (DCCC) is a comprehensive community college located in the western suburbs of Philadelphia, Pennsylvania. Some 11,000 students (6,600 full-time equivalent) are enrolled in college credit courses; another 15,000 are enrolled in noncredit and community education programs. Forty (40) percent of the college's graduates transfer to a four-year college, and 60 percent seek employment. DCCC's placement rate (graduates employed or enrolled in further study) was 98 percent in 1992.

Reasons for Embracing CQI

"Academic renewal" was the principal reason for DCCC's decision to implement CQI. The college also felt the need to respond to competition — there are seventy institutions of higher education in the Delaware Valley — and to be a "learning institution, able to change rapidly in response to customers' changing needs."

Getting Started

The initial champion of CQI implementation at DCCC was the associate dean of the college. CQI began as an experiment in DCCC's departments of academic computing and media services, both supervised by the associate dean. In the fall of 1986, after a year of study, the president and the executive team of the college decided to emphasize TQM.

Strategic Framework

The TQM implementation effort at DCCC was first supported by the Executive Quality Council headed by the associate dean of the college, the college's Quality champion and self-taught CQI expert. Members of the council were the president and the college's executive team. The council was supported by a Quality coordinator (a new staff position), whose budget is less than $100,000 per year.

The infrastructure supporting the TQM effort has evolved to include the Executive Quality Council; a Total Quality Steering Team for implementation (membership is a diagonal slice of the administration); a support staff co-op (an organization developed by support staff to promote the study and implementation of TQ); and the Faculty Development Committee, a subcommittee of the college's faculty governance system.

Obstacles

The major obstacles to CQI implementation are (1) old habits and (2) old ways of managing, both of which are difficult to change. These are especially difficult because:

- All the old rules of behavior no longer apply under CQI, but the same pressures remain.
- There are no specific "how to's" for fitting "this new type of behavior" into DCCC's culture.
- The change under CQI is gradual, there is a very strong pull to revert back to the old culture, especially in times of crisis.

- The college's Total Quality Steering Team has struggled to find ways to modify the college's structure to encourage the new behavior required by CQI. Strategies have included making TQ an important factor in staff's annual reviews; assigning managers to Quality teams and expecting them to develop improvement projects; modeling of the new behavior by executive staff and steering team members; implementing TQ as a strategic goal of the college; and focusing attention on the TQ effort through various all-college meetings, focus groups, and climate surveys. Members of the college's executive team have begun to ask for Quality measures and evidence of improvement in operational processes.

Key Successes

DCCC's strategic-planning process has been modified to include (1) ongoing dialogue between the executive team and units responsible for implementing strategic goals about the feasibility of and strategies for implementing those goals, (2) regular monitoring of strategic plans, and (3) the identification and chartering of key processes. A series of improvement projects at DCCC have resulted in significant improvements and/or cost savings, including the following:

- The 1991-92 budget was produced on time and according to a schedule that "was realistic for all concerned." For the 1992-93 cycle, the policy governing capital requests was changed. As a result, department heads request capital expenditures only when the money is available. This change has eliminated a major frustration and cause of rework.
- New copy centers were installed with state-of-the-art machines. The cost of the new centers was covered by initial savings (e.g., a 96 percent reduction in secretarial time devoted to copying).
- Data collection on parking patterns and customer habits resulted in a $10,000 expenditure to modify signs and the current staff parking lot, avoiding a $200,000 expenditure for a new lot.
- A $200 per month savings has resulted from sending mail to the post office in zip-code order. The savings was made possible when individual departments began to send mail to the mail room in zip-code order.
- Information from the assessment center has been standardized and is accurate. Information delivery hours have been extended to evenings, weekends, and holidays; calls to the office for additional information are minimal; and GED information calls have been reduced by almost 100 percent.
- Several faculty members have studied *Teacher as Classroom Researcher*, by K. Patricia Cross and Tom Angelo, and have adopted some of their suggestions for the classroom. These techniques fit within the rubric of TQM.

Academic Activity

DCCC cites the following CQI activities in academic areas of the college:

- DCCC offers a fifteen-credit certificate program in CQI.
- Concepts of CQI are taught in business-related courses.
- Thirty (30) percent of full-time instructors and 15 percent of part-time instructors use TQ concepts to manage the teaching/learning process. Specific technology includes Classroom Assessment Techniques (CATs) (Cross and Angelo) and Project LEARN (Kathy Baugher).

- Academic administrators are expected to use TQM philosophy and techniques. The following are some of the activities and strategies employed to train administrators in TQM:
  (1) Implementing TQ is a strategic goal, so it appears on every administrator's annual plan.
  (2) Implementing TQ is an item in every administrator's annual review.
  (3) During the initial phase of the TQ implementation, all administrators received thirty to forty hours of formal training over a three-year period.
  (4) Formal training has been followed by task-related training targeted at particular TQ efforts (DCCC undertook a college-wide effort to identify and chart key processes in the institution).
  (5) Institutional measures are currently receiving critical attention and will be the focus of administrative training.
  (6) Involvement in TQ is a condition of employment for new administrators.
  (7) All new administrators attend a continuing education introduction to TQ and receive individual tutoring from the TQ office.
  (8) DCCC administrators are recognized for implementing TQ by being asked to make presentations, attend conferences, etc.

Faculty Resistance to CQI

The initial resistance to CQI implementation at DCCC was from the heads of the faculty union, who took part, along with the executive team, in the initial exploration of TQ and the decision to implement TQ. At that time, the union felt that any initial training or effort from the faculty to learn about TQ should be negotiable.

The TQ effort at DCCC focused on the management of the college for the first five years. Faculty were welcome as voluntary participants and training was made available. In year four of the TQ implementation effort, two faculty members attended a workshop on CATs given by Cross and Angelo. In year five, faculty requested TQ training that would be specifically targeted to the classroom. The best training that the college could offer at that time was an overview of TQ and encouragement to experiment with TQ concepts in the classroom. In 1992, faculty experimented with a variety of strategies with the help of faculty challenge grants that made modest funds available for clerical support, data analysis, and other expenses. In 1993 (year seven) a pilot group of forty faculty members experimented with Project LEARN. This effort, which has expanded to include additional full- and part-time faculty, now focuses on the use of both CATs and Project LEARN.

Next Steps

During the next year and a half, DCCC will focus on developing and using "viable outcome and process measures" for the college's key processes. As a result of DCCC's effort to identify and chart its internal work processes, the college now knows what its most important processes are and has a "pretty clear picture" of how they must be linked to produce accessibility, good teaching/learning, and all of the important services that support DCCC's mission of providing an accessible, quality education to its target population. However, DCCC does not yet have good measures in place that reliably tell the institution how it is doing. For example, there is no quantifiable measure of DCCC's accessibility or of the quality of its teaching-learning process. Without those measures, the college also does not have a good picture of how important or how effective some of the processes that support accessibility or teaching/learning are.

In addition, there is an effort under way at DCCC to "facilitate the linkages of work processes horizontally, through the walls of the functional silos." The college has become much better at identifying the needs of its students and its external customers (the employers of its students, the institutions to which the students transfer). DCCC has not been as good at recognizing the needs of its internal customers — those who receive the results of its daily work.

Often, in the name of improvement, a single process in a unit will be changed without regard to the effects on other units. But there are many processes — teaching/learning, for example — that require the integration of processes from many different units, and the college has not always done a good job of integrating those processes. Throughout the campus, that processes should link from unit to unit is often not clearly understood and not discussed. DCCC will be focusing on methods for reducing these "disconnects" in all areas of campus.

Hindsight

If DCCC could do two things differently in its implementation of CQI at the college, it would integrate its Quality implementation plan with the college's strategic plan from the beginning, and it would develop an early effort to identify critical production and support processes with the accompanying process and outcome measures. The measurement issue should be addressed early in the implementation process, when the spirit of exploration that can be fostered is particularly strong.

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EL CAMINO COLLEGE

The Institution

El Camino College is a comprehensive public community college located in the urban South Bay region of Los Angeles County, California. The college offers both academic and vocational fields of study for more than 24,000 students. For the first time in the college's forty-year history, minority populations account for approximately 65 percent of the student body. Located in the hub of the aerospace industry, the college is playing a key role in assisting small businesses and industry in their transition to a peacetime economy.

Reasons for Embracing CQI

El Camino's primary reason for embracing CQI was internally motivated; there were no pressures, forces, and/or needs that it was responding to. It was a purely proactive decision directed at improving customer-related services, "cleaning up" El Camino's internal processes, and simplifying procedures and services.

CQI began with an initial request from a small manufacturing business to the dean of El Camino's industry and technology division to provide some contract education courses on Quality control for industry in the area. Also through the dean of the industry and technology division, El Camino became involved in the development of the Community Alliance for Total Quality (CATQ), a nonprofit organization devoted to helping manufacturers, service industries, educational institutions, and government agencies understand and apply new methods for Continuous Improvement. As a result of these events, El Camino's president became interested in Continuous Improvement. In the fall of 1988, the president invited ten staff members (faculty, classified staff, and management) to attend one of the industry training sessions to evaluate the possibility of implementing TQM/CQI at the college. The group decided that El Camino should proceed with the implementation of TQM.

Getting Started

El Camino's principal CQI champion has been its president, particularly during the past five years. Additional initial champions were the steering committee, facilitators, and members of the college's first three pilot teams. The three pilot teams were cross-functional teams that dealt with purchase requisitions, conference requests, and maintenance work orders. To date, there have been thirty cross-functional teams that have addressed a variety of processes.

Strategic Framework

Once El Camino made the decision to implement CQI, a group of thirty-five faculty, classified staff, and managers went through ten days of training. From this group, a fifteen-member steering committee was formed, and El Camino launched its Campus Commitment To Excellence (CCE). During the first year, the coordination of training was handled through the staff development office. The position of coordinator has rotated for the last four years; however, this past year, El Camino formed a quality office headed by a permanent Quality manager.

Although the college was careful to select a good cross-campus representation of employees for the initial TQM training, the three pilot process-improvement teams (PITs) were

focused more on administrative processes. The members of these teams were predominately from the classified and management staff, although each team (eight persons) did include one faculty member. Training has continued, and approximately 400 employees have attended some form of internal training. Although all of El Camino's seventy managers have been trained, classified staff comprise the majority of persons trained. Approximately 10 percent of El Camino faculty have been trained to date.

Obstacles

Because El Camino was one of the early CQI pioneers in higher education, the materials and models available to the college were industry based. As a result, the college struggled to transfer the jargon, case scenarios, and other materials to service applications. Also, because El Camino was not reacting to any strong external factors, many employees, particularly faculty, questioned the need for CQI implementation. Faculty continue to question CQI and are "quite vocal" in their resistance to becoming involved. Many faculty refuse to even entertain the idea of student as customer. In addition, some support staff became discouraged because "they don't see CQI happening in their areas." Many managers are not supporting and encouraging work teams, arguing, "Why should we spend our time on a team, when the chances of our suggestions being followed through with are very slim?" Further, most managers at El Camino are not making CQI a top priority in their area and often are unwilling to change themselves and do things differently.

Another key obstacle to CQI implementation is when key individuals, particularly from upper management, do not "walk the talk"; they express their support for CQI at meetings and other gatherings and attend CQI training, but do not embrace the CQI philosophy or use the tools in their offices. El Camino calls such individuals "phonies."

El Camino also has encountered the "brick wall syndrome," or that point in implementation in which moving ahead seems impossible and things come to a standstill. The college found that even early supporters and champions began to question "Why are we doing this?" As a result, El Camino has had to regroup, evaluate the implementation process, identify the obstacles, and chart a new or revised course of action. The approach now is less aggressive and more subtle. The college is working with smaller work-area teams and fewer cross-functional efforts and is attempting to help personnel understand and embrace CQI on a more personal level.

Key Successes

El Camino's initial PITs had several successes. The following are three examples:

- The purchasing requisition team (The REQing Crew) reduced the travel time of a purchasing requisition from point of origin to receipt of paperwork in purchasing from thirteen days to five days. This was accomplished by eliminating duplication of signatures and allowing supervisors to authorize routine orders.
- The conference reimbursement team (The Big Pay Back) reduced duplication of effort by combining the request to attend a conference and the reimbursement form into a single form. The process has functioned more efficiently with the new form, and reimbursement checks now are guaranteed to be processed within ten working days, as opposed to the former turnaround of thirty days or more.

- The faculty time-accounting process team (The Time Busters) refined a cumbersome process that required faculty to verify their absences on monthly time sheets, sign the form, and then forward the form to the dean for signature. The individual time sheets have been combined into a single sheet that lists all faculty; absences are recorded by exception, and the dean signs only one sheet as opposed to 50-100 individual time sheets. As a result, faculty don't have to sign and return time sheets each month, secretaries don't have to "hassle" faculty to get their time sheets in on time, deans sign only one form, and payroll deals with a maximum of fifteen to twenty sheets of paper, as opposed to 350.

In addition, many of El Camino's twenty-eight subsequent PITs also have made recognizable progress in improving processes, particularly the classified staff, which have accomplished the most overall because of their heavy level of participation. High levels of employee satisfaction also have resulted because "any person working on a team that was able to bring about some changes in . . . processes came away from the experience with a high level of satisfaction." Also, significant direct costs savings were recognized in a few cases. The college is continuing to establish a more accurate instrument for measuring the indirect cost benefits.

Academic Activity

El Camino's Classroom Assessment Techniques (CATs) program, in which nearly 20 percent of the college's full-time faculty have participated, is the closest model of CQI in the classroom. The CATs program is based on a model that K. Patricia Cross and Thomas A. Angelo presented in their book entitled *Classroom Assessment Techniques: A Handbook for Faculty.* The book was a result of one year's research on classroom teaching and learning. The authors present some thirty-five quick assessment techniques that faculty can use to get instant feedback on how well students are learning what is being taught. These assessments enable faculty to make adjustments to their teaching styles to better facilitate learning. El Camino's semester-long CATs program for faculty consists of five 3-hour meetings. Faculty are required to choose assessment techniques for use in their classes and then evaluate these techniques throughout the semester. The faculty interaction and sharing of success has been one of the great benefits of the program. The college pays faculty a stipend for their involvement, and the program is facilitated by a faculty member who also is paid a stipend. The continued success of El Camino's CATs program is due in part to the college's efforts *not* to link it with other Quality efforts at the college.

Faculty Resistance to CQI

After five years, El Camino is still struggling with faculty resistance. Each year, the college attempts to bring about some awareness training, and each year there seems to be a whole new set of fears — academic freedom is the latest cry. Some past excuses of El Camino faculty for resisting CQI implementation are the following: "CQI doesn't concern us." "It's a waste of time." "There have not been any changes." "Things are still being done the same old way." "I still don't have chalk in the classrooms and the restrooms are dirty." "It's for business, not education."

Current faculty resistance at El Camino is more "covert/implicit," which the college attributes to its "more low-key approach" to CQI implementation. This approach entails working with smaller work areas to focus on empowerment and decision making at the lowest level possible. Successes are most evident in natural work teams where the members are intimately

involved in their own processes and can best make their own decisions and changes. Managers decided to participate because they were interested in improving a process within their department; they were not "compelled" to take part.

Next Steps

Over the next six months, El Camino plans to concentrate very heavily on upper- and middle-management training. The college's emphasis will be on statistical process control (SPC). Managers also will be made more aware of the processes they are responsible for, the variation of these processes, and how to begin using the PDSA cycle (plan, do, study, act) within their departments. El Camino's objectives are to make statistics user friendly and to have a person available to assist the work-area teams. Also, the college is shifting from the more global PITs (process-improvement teams) to natural work teams.

Hindsight

El Camino would do two things differently in its CQI implementation: It would establish a Quality office and hire a Quality manager from the start to promote more up-front awareness and discussion of TQM/CQI. It also would focus more attention in the work areas (natural work teams) as opposed to adapting the cross-functional approach of the process-improvement teams.

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FORDHAM UNIVERSITY GRADUATE SCHOOL OF BUSINESS

The Institution

Fordham University is a private educational institution for men and women governed by an independent board of trustees under a charter granted in 1846 by New York State. There are 13,000 students on three campuses: Rose Hill in the Bronx, Lincoln Center, and Tarrytown.

The Graduate School of Business Administration (GBA), the focus of this survey, is based at Lincoln Center in mid-Manhattan, with facilities also at the Tarrytown campus. GBA's enrollment is 1,900, with eighty-two full-time faculty and an equal number of adjunct faculty. GBA operates, in some respects, as an independent unit.

Reasons for Embracing CQI

The impetus for CQI implementation at GBA was primarily internal. GBA's management area has taught Quality Management in various forms since 1986 and has special expertise in the philosophy of W. Edwards Deming, with two Deming "masters" on the faculty. Some faculty members outside the management area became interested in Quality concepts and developed independent or joint teaching projects. Hearing about these concepts also stimulated interest on the administrative side of the school. A major motivation was the realization that GBA was not using Quality Management at the business school itself.

Getting Started

Some of GBA's management faculty were the first CQI champions. They introduced it into the curriculum in 1986 and spread the word to other faculty. On the administrative side, the initial champion was the director of planning and new programs. In 1991, with the full support of GBA's dean and a faculty committee, the director designed the annual faculty conference around the theme "How to Practice What We Teach." This was an important event that generated numerous initiatives and additional CQI champions, some in areas outside GBA. Another champion at GBA was the assistant dean for student affairs, who felt that this new philosophy could help improve the registration process.

Strategic Framework

GBA's assistant dean for student affairs formed a registration task force and asked two of the TQM professors to serve both as members and advisors. The director of planning and new programs was invited to join, as were the head of the university's computer operations (CIMS); the bursar; the assistant to the director of planning; and two management students, one of whom had just completed a study of the university's registration system for a class project. The task force was the "seed bed"; once the process began, the head of CIMS brought more of his staff, and several other university administrators asked to attend the task force meetings. All parties involved were from middle and upper-middle management, not senior management. The head of CIMS, however, began to educate his superior, the vice president of planning and budget, about Quality.

Another strategy designed to spread interest in Quality ideas beyond GBA was the marketing of a four-day course in Service Quality for corporate executives taught by one of

Fordham's faculty. The marketing was spearheaded by the director of planning and new programs. Included in the program's budget was the cost of five scholarships for Fordham University administrators. Those who attended came back with such enthusiasm that the university asked GBA to organize a similar four-day seminar just for Fordham's senior administrators, which was held in July 1992. In addition, in the summer of 1993, the director of planning and the assistant dean for student affairs ran a one-day introduction to Quality Management ideas on three separate occasions, eventually reaching the entire staff of the recruiting, admissions, financial aid, bursar's, and student housing offices.

Obstacles

The registration task force ran into early snags caused by "over-eagerness" — it tackled too long a list of problems, resulting in a lack of focus. At the suggestion of GBA's faculty task force members, GBA brought in another faculty member, one of its Deming masters, as a facilitator. He quickly got the task force back on track using Quality Improvement process techniques.

Another problem area has been the manner in which CQI has spread throughout the university. The effort began in just one part of the university, GBA, and has continued to spread by what the director of planning and new programs calls the "ripple effect" and what Dan Seymour calls the "loose-tight" model (the existence of some commitment at the top, pioneering units, local champions). This model may have the best chance for long-range success at Fordham because it allows for a gradual "buy-in" at the middle and lower levels (prompted by enthusiasm for the processes and not by the belief that it's what the "boss" wants); however, it is a slow and sometimes exhausting and discouraging process.

Having no central coordinator or no single person thinking about CQI initiatives constantly also has been a "drawback." GBA's champions cannot focus on Quality all the time and often are unable to perform the amount of "follow-through" needed to keep things going. However, even this has a plus side, since it can stimulate the emergence of more "mini-champions," rather than one Quality guru.

Key Successes

An early success came with the complete buy-in of the university's computer area (CIMS). In addition to full participation in the registration task force, the head of CIMS asked one of GBA's professor/advisors to conduct sessions with the CIMS staff. The result of these sessions was the formation of eight CIMS task forces, each targeting a different area of the university (CIMS's internal customers) or outside suppliers (CIMS's external customers). Relations between CIMS and other university departments have improved greatly. When a fire caused all of the university's computers to go down, everything was back up and running within twenty-four hours, a success story that CIMS attributes to its Quality initiatives. An article about this success has appeared in various computer publications and was published as part of the Juran Institute's Impro 92 (an annual meeting at which U.S. and foreign corporations, and now some educational institutions, report on their TQM successes).

The registration task force worked for a year, and its initiatives continue to be implemented. Student satisfaction with improvements to the registration process is evident from the greatly reduced number of complaints and the positive comments from student focus groups. Phone logs reveal that there has been a 50 percent drop in calls to complain or ask questions

about the materials and instructions in the registration packets. Materials such as the tri-annual registration packet are evaluated and improved before each mailing.

Response time to applications, follow-up, and acceptances also have been greatly accelerated. Currently, a management class is studying two admissions processes: the time and steps required to respond to (a) information requests and (b) incoming applications. In a time of declining enrollments, GBA's enrollment is at its highest level ever, which is partially attributable to the innovations stemming from the registration task force and ideas generated from the Deming seminars.

Academic Activity

TQM was taught at GBA before GBA began to practice it. However, the "buy-in" of GBA's own faculty is far from complete. The process operates slowly and collegially, from one faculty member to another. Presently, there are TQM courses in all areas, not just in management (TQM and corporate finance, marketing, accounting). Also, some faculty have initiated team teaching projects in which two professors from different areas (e.g., finance and management) teach a course about TQM in corporate finance.

Faculty Resistance to CQI

Resistance to CQI implementation by faculty (and administrators) has not been particularly strong at GBA and has been mostly implicit. Resistance usually takes the form of "poking fun" at TQM tools and processes or not attending TQM-related sessions. Those who are resistant or uninterested are not pressured. Perhaps the single best way to impress faculty with the value of CQI is for them to experience its results as "customers" of administrative improvements. In many cases, resistant faculty are actually using some CQI ideas and techniques under other names.

Next Steps

GBA's next steps in its CQI implementation efforts are to expand assistance to other parts of university administration; to implement more employee training, especially at GBA itself; and to develop a more complete and customized short course to introduce lower-level staff to some basic CQI techniques.

Hindsight

GBA mistakenly assumed that everyone "knows how to greet a customer, answer a phone, run a meeting, be a good meeting participant." GBA first would offer training in these basic skills, beginning with one or two sessions from the university's communications professors, before undertaking TQM process training. Such skills are now incorporated under the TQM umbrella.

In addition, even though GBA does not believe that there should be a specific department or person in charge of CQI, it would consider tapping one or two individuals — middle-level staff — to oversee the effort and keep things moving.

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FOX VALLEY TECHNICAL COLLEGE

The Institution

Fox Valley Technical College (FVTC) is a two-year technical college offering associate and vocational degrees in more than sixty programs. FVTC is one of sixteen districts that make up the Wisconsin Technical College System. FVTC's mission is to promote education as lifelong learning and to prepare students for entry-level and continued employment. FVTC has more than 600 full- and part-time employees, 300 of whom are full-time instructors; FVTC employs an additional 800 to 1,000 adjunct faculty.

Reasons for Embracing CQI

In 1986, the former president of Fox Valley Technical College met with his CEO Council, consisting of representatives of small and large businesses within the college's district. (The council was formed as part of an ambitious economic-development initiative begun by the college.) At the conclusion of the meeting, one council member, the CEO of a local paper company, approached the president with a request for customized training. FVTC had been increasing the amount of training being done in companies and welcomed such requests. This particular request was for Quality, or "zero defects," training.

The president decided to investigate the scope of local businesses' involvement in Total Quality (TQ) to determine if FVTC should get involved in training. After doing some reading and local research, he realized the possibilities for Quality implementation at FVTC, as well as the opportunities to provide Quality training for local employers. He has said since that he really had no idea what he was unleashing. He had no doubt that TQ was a significant initiative and good for the college, but he had no concept of the eventual impact that "Quality First," as it was then termed, would have on FVTC.

When FVTC began to practice Quality Improvement, the college was healthy; placement rates and enrollments were good. Finances were a problem, but not yet a serious one. In no way was FVTC a school in crisis; the president simply hoped TQ would make FVTC a better institution.

Getting Started

The president and the economic development dean were FVTC's initial Quality champions. FVTC did not limit the initial practice of TQ to any particular functional areas; both the academic and administrative functions were expected to implement TQ. The college did not consider beginning on anything less than a "full scale."

Strategic Framework

When FVTC began exploring TQ, there were no educational models to serve as guides. Examples came from local business and industry, and even those efforts were in their infancy. Everyone had a lot to learn. A local paper company, which served as FVTC's local mentor, introduced the college to Phil Crosby's Quality model.

FVTC operated under the following assumptions during the first phase of its TQ implementation:

- Quality is everyone's responsibility.
- It is best to adopt a comprehensive Quality model (not just an element of TQ, such as statistical process control).
- A focus on improving the organizational climate will lead people to want to do a better job.
- FVTC has customers.

During the first phase of implementation, FVTC established a steering council and hired a Quality coordinator; mandated Quality-awareness training for all employees; and formed college-wide committees on recognition, Quality awareness, measurement, and education.

Obstacles

FVTC confronted several obstacles in the early years of TQ implementation. Some of the college-wide committees struggled with their missions. The creation of the committees resulted in a new structure that paralleled the existing structure, furthering the idea that Quality was different from "regular" operations.

FVTC's focus on Quality as "everyone's responsibility" ignored the greater initial responsibility of management. The introduction of a comprehensive model was "overwhelming," because there were numerous things to focus on at once — awareness, training, improvements, climate, measurement.

FVTC was "at a standstill" at the end of the first phase of TQ implementation. Members of the college community certainly were aware of TQ, early champions had taken off with it, and the unions were listening; however, on the whole, the organization had not transformed to the extent that TQ seemed to promise. As a result, FVTC needed to "regroup." The steering committee examined what FVTC had and had not accomplished and why. First, the committee questioned the model that FVTC was using, which did not seem particularly suited to education. The works of W. Edwards Deming, Joseph Juran, Philip Crosby, and Karl Albrecht were reviewed, and the college developed its own sixteen-step model that seemed (at the time) to be inclusive of all four models with some ideas of its own thrown in. In particular, FVTC needed to address the following issues:

- TQ was not filtering down to the department or natural work group.
- TQ was taking on a negative focus.
- Employees weren't sure what they should be improving or how to go about it.
- Employees saw their regular day-to-day work as one thing and TQ as something else.

Adapting the new Quality model was just one step in addressing these concerns. The scope of training needed by FVTC employees also became clear. FVTC learned that wanting to implement Continuous Improvement is one thing; having the capacity to do it is another. FVTC had been heavy on awareness and light on TQM tools and techniques on the job. The college began planning to hire a full-time training director to implement a long-term training plan.

Key Successes

The first phase in FVTC's TQ implementation was successful in that it created awareness of TQ among all employees. Even adjunct faculty were paid, via a stipend, to participate in workshops on TQ.

The first phase was also successful in creating awareness and acceptance of the concept of "customers" (the notion of internal customers especially led to some initial confusion). Employees weren't sure whether to focus on their recently discovered role of internal customer or their more traditional role of product/service provider, and they tended to focus on the former. However, now that there has been additional training and clarification of the issue, the word "customer" is used consistently and comfortably throughout the college, especially in reference to students.

TQ training was another aspect of early implementation at FVTC that proved "worthwhile." While the mandatory nature of the training was provocative, to say the least, employees generally enjoyed getting together for twenty hours to discuss education and Quality. One wonderful, incidental benefit of the training was the opportunity for people to get to know one another; some classes took class pictures, and one even held a class reunion.

Another critical area of improvement at FVTC was in its relationships with its two unions: the Educational Support Personnel Association and the Faculty Association. They were included in the TQ initiative in three major ways: (1) The president formed a Futures Committee, consisting of union leadership and administration, to explore FVTC's future. (2) The president met with the executive committees of both unions monthly to talk openly, answer questions, and discuss concerns. (3) When the bargaining process slowed down — the normal course of events at FVTC — the administration and board responded quickly and, for the first time in history, multiple-year contracts were settled with both unions. FVTC has no doubt that these efforts paved the way for the unions' acceptance and practice of TQ.

Along with improvements in products, processes, and services that are too numerous to mention, the college has documented upward trends over a four-year period (1988-92) in enrollment, graduate placement, revenues from contracted training, and organizational climate.

FVTC student and local employer satisfaction is very high and stable. Evidence of improved customer service abounds throughout the campus. TQM concepts and terminology are being accepted universally among college faculty and staff. FVTC also has managed to contain costs. Although from a strict research standpoint it may not be possible to say that these trends are definitely a result of TQ practice, those involved feel very strongly that they are.

Academic Activity

The instructional phase — faculty training — is already under way at FVTC. Faculty training focuses on the direct applications of TQM to the teaching/learning process. Faculty will participate in a twenty-four hour course on how to apply TQ in the classroom, as well as in a facilitated experience at their own pace for building the faculty "team." FVTC soon will offer a guarantee to employers that all graduates of FVTC are competent in TQ. This means that faculty will be incorporating TQ concepts into all program courses and using TQ to improve the instructional process.

Integration will continue as faculty begin to see TQ as part of doing business rather than as an add-on. Faculty already are becoming more experienced and flexible in applying

and integrating TQ tools and strategies. For example, conflict resolution and Plan-Do-Check-Act planning make a nice fit.

To address work unit involvement, the college established a vision for self-management and introduced a step-by-step process that work units could follow to move responsibly towards self-management.

Faculty Resistance to CQI

It is nearly impossible to generalize about faculty reactions to CQI at the college. Members of the faculty have varied in their response, just as members of management and support staff have varied. Resistance to TQ at FVTC seems to be based more on personality type or personal philosophy than on job classification. Where there has been resistance from faculty, the best approach has been to provide more information and a chance for spirited debate. All sixty programs offered by FVTC soon will include twenty-five CQI competencies, which signals a high level of faculty involvement.

Faculty were no more or less reluctant or willing to adopt TQ than was any other group within the college. The Faculty Association has remained firm in its expectation to be included in the development of TQ. The Faculty Association president sits on the Quality steering council, known as the Total Quality Leadership Team (TQLT). The only faculty resistance to TQ came during a conflict over contract negotiations several years ago. (This conflict is further discussed in **Key Successes).** As the board of directors and the president sensed the damage that could occur over a relatively minor difference, they moved quickly to resolve the issue. Consensus bargaining is now the strategy for contract negotiations at FVTC. The college considers faculty critical to the success of TQ at FVTC and owners of the process of teaching and learning.

Next Steps

FVTC welcomed a new president in July 1993. He is consciously developing an executive leadership "team" and has further defined the role of the Total Quality Leadership Team and its role in organizational leadership.

The next steps in TQ implementation at FVTC revolve around the "reforming" that has come with the new president's arrival. The college must redefine CQI, renew its commitment, and strengthen its efforts. Next steps include new college-wide improvement projects and the integration of Quality competencies in all sixty programs. The North Central Association of Colleges and Schools reaccreditation process, which FVTC currently is undergoing, also will spawn many improvement efforts. FVTC will be drawing a systems map and will continue its efforts toward self-management at the team level.

A staff-development team that includes the TQ training director is in place at FVTC. It will continue to move FVTC toward its goal of becoming a learning organization. A staff-development center also has been established. The next phase of learning will be aided by an evolving conceptual model for staff development. The next "thrust" will be the facilitated development of all work teams. Teams will have access to the center and to skilled facilitators as they undertake team-development activities such as defining mission and vision, setting major goals, learning teaming skills, identifying process-improvement activities, setting success indicators, and measuring against those indicators.

The pilot team for training is the leadership team previously described as the Futures Committee. It is composed of the executive cabinet and the executive committees of the faculty

and support staff unions.

Faculty teams will augment their team development with Quality in the classroom training, which will offer assistance in Classroom Research strategies. A joint effort of the staff-development team and the office of instruction will intensify the effort to assist faculty with the development of program content and classroom practices that will ensure that students develop competency in the practice of TQ.

The college is in the process of developing its systems map and identifying its critical processes in an effort to provide a much-needed focus to process-improvement activities.

Hindsight

It is difficult to say what FVTC would have done differently. Even the college's mistakes, or perhaps especially its mistakes, created readiness for the next step. "It may not be what you do, but how tenacious you are. If you remain committed to understanding and practicing CQI, regardless of the failures and humiliations along the way, you can make it work. It seems to be more a matter of tenacity and sincerity than of a 'right' method."

Some people at FVTC think that the college should have begun the systems mapping and the identification and improvement of critical processes earlier. Although many improvements have happened without that focus, clearly the organization should have targeted its critical processes earlier. On the top of the list would have been teaching/learning — not because of poor performance in that area, but because teaching/learning is why FVTC exists. Others at FVTC feel that it would have been better to have a strategic and operational planning model that strove for unit optimization, vertical alignment, and horizontal integration.

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GEORGE MASON UNIVERSITY

The Institution

George Mason University (GMU) is a medium-sized public research institution located in Fairfax, Virginia. GMU is a growing institution that serves more than 21,000 students and offers more than 100 degree programs, including ten doctorate degrees and one juris doctorate degree.

Reasons for Embracing CQI

GMU's primary reasons for pursuing new methods of Continuous Improvement stemmed from the university's need to better organize efforts already under way, plus the need to decrease operating costs stemming from reduced state support.

CQI is not new at GMU, particularly in the academic arena. GMU has a well-established tradition of seeking innovative and cross-disciplinary approaches for the achievement of its institutional mission. Within the administrative arena, however, new models of improvement were needed to help identify administrative departments' customers and what those customers valued in order to reduce operating costs while providing higher quality service to increasing numbers of students.

Within administrative departments organized under the umbrella of "academic support administration" (admissions, advising, registration, financial aid, career services, and counseling), improvements prior to TQM initiatives launched in 1991 were limited to clarifying functions and documenting costs of doing business. Lacking at that time were tools for understanding work processes, focus and documentation on who departments served (both internally and externally), what customers valued, and the level of customer satisfaction.

Due to the clear interdependence of operations within GMU's academic support departments, their early organization-development efforts laid important groundwork for what was to become a more advanced "cross-functional" process-improvement strategy learned in part from TQM. More importantly, efforts to streamline these interdependent operations (a long-standing goal of these departments) became focused within a heightened context of customer service. The customer service focus of process-improvement efforts and some of the new problem-solving tools — both important contributions from TQM — represent the principal new aspects of GMU's current Continuous Improvement management practices. GMU states that "this is not to say that departments were not trying to improve customer service prior to TQM. Rather, it is to say that managers now have better skills and tools to improve operations in ways that lead to higher quality customer service."

Getting Started

Within GMU's administrative arena, the first champions were the vice provost for academic support, who managed eight academic support departments, including the registrar's office, financial aid office, admissions, the counseling center, the career development center, academic advising, and the English language institute; and a senior staff member in the office of institutional planning and research. Soon thereafter, the executive vice president for finance and planning, supported by a $50,000 presidential grant, launched a major project in human resources and the payroll process. The following year, the executive vice president supported participation

in the NACUBO Benchmarking Project (1992 and 1993), a national search for "best practices" in higher education administration.

Strategic Framework

In the administrative area, GMU's strategy, although never formalized, was to pilot a few projects in very small administrative processes (such as processing enrollment verification and transcripts), followed by larger administrative processes (such as processing payroll and financial aid applications). Eventually, strategies expanded to whole departments and then to divisions. No formal Quality council or steering committee exists at GMU.

Obstacles

GMU experienced the following three obstacles to CQI implementation:

- Because TQM was not initially a formal and institution-wide initiative, no attempt was made to address reward and incentive systems that supported old management practices. For example, state-mandated performance review systems and inadequate systems for measuring organizational performance reinforce old values of individual, rather than organizational, performance.
- Although GMU administrative staff were bright, creative, and energetic, they lacked the resources — time and money — to learn and test new management philosophies. GMU points out that without training and education, staff continued to do what they knew.
- Even though most administrative processes cut across multiple organizational lines, GMU's administrative organizational structure was traditional and hierarchical. GMU states that this "stovepipe" model reinforced old leadership roles and behaviors that created barriers to new methods of decision making and problem solving that cut across organizational lines and violate traditional chains of command.

Key Successes

GMU administrative staff are learning new leadership roles and management skills that are "opening the flood gates of enterprising innovation and cost-saving strategies." Their vision is a transformation from compliance functionaries to high-performing, customer-pleasing service providers. Morale is improving as a result of (1) a shared vision; (2) new strategies for rewarding employee excellence; and (3) a renewed commitment to building competence and confidence among support staff who directly serve students, faculty, and the general public.

Offices such as physical plant, financial aid, the registrar's office, the career development center, admissions, and human resources are launched on a journey of cultural transformation in which teams of administrators and staff are identifying their customers (both internal and external), what their customers value, and how well their organizations are providing value. They are learning how to define Quality in new terms, including cost; they are learning how to document and analyze work processes to uncover rework and waste; they are learning how to measure and benchmark organizational performance — knowledge needed to sustain Continuous Improvement efforts. More importantly, these offices are learning how to practice new problem-solving skills that are *inclusive* rather than *exclusive*.

After only two years of learning about and experimenting with TQM, GMU is beginning to realize some successes, as demonstrated by reduced operating costs and substantially increased

customer satisfaction. For example, in the payroll office, production time has been reduced from thirteen hours to three hours, an improvement that frees up the administrative mainframe computer five nights a month. In the financial aid office, students are notified of their award packages four to six weeks earlier than they used to be. In the registrar's office, registration lines have been greatly reduced, and registration now is available by telephone; enrollment verifications, which used to take thirteen working days to complete, now are provided on site or mailed within twenty-four hours; transcripts, which used to take three or four weeks to mail, now are provided on site or mailed within forty-eight hours; grades, which used to take as long as four weeks to mail, now are mailed within forty-eight hours of a student's last exam and soon will be available by telephone. The admissions office redesigned part of its recruitment process based on information gained from data captured through automated communication systems with prospective students. The career development center reengineered its administrative operation and significantly increased the number of hours that counselors were available to advise students without increasing staff. Customer satisfaction surveys indicated that students perceived academic support staff to be increasingly knowledgeable, caring, and friendly. In addition, process improvements and new strategies for rewarding staff improved morale among academic support staff, who are becoming CQI champions and increasingly skilled and valued problem solvers.

Academic Activity

Innovation is a valued strategy for improving effectiveness and efficiency at GMU. The ways that academic programs are planned, classes are taught, and students are tested are changing all the time. For example, students no longer necessarily sit through three 50-minute class periods to earn three credits of coursework. Instead, they may listen to lectures via videotape and cable television and use normal class time for intense discussion. Or they may share a course taught by faculty at four different universities — all at the same time, all on screen — through microwave and television. Students also may benefit from tutorials conducted through electronic mail. This new coursework cuts across the conventional disciplines, beginning the "much-needed" realignment of university organization with the organization of knowledge. The "lock-step mass production of degrees" is being replaced by a customized program that emphasizes and hinges on an individual's initiative.

To change the learning environment, GMU is changing its own internal structures, including the following:

- Faculty are designing a new undergraduate curriculum, called "zero-based curriculum," which is intended to serve as a prototype for twenty-first century education.
- The School of Information Technology and Engineering is creating an essentially new learning environment over the next four years by applying the most advanced technology available.
- GMU's entire physical infrastructure, including residence halls, soon will be connected by a fiberoptics network designed for voice and video communication.
- Six university institutes now offer degree programs that combine academic disciplines in new ways.
- The Graduate School of Education offers a nontraditional M.Ed. program for teams of teachers employed in nearby school districts. As part of the program, the teachers learn and practice TQM principles at their own schools.

Faculty Resistance to CQI

GMU faculty, like those at other major research institutions, face the challenge of becoming more "other" centered in their teaching and research.

Next Steps

Currently, GMU has no plan to institute a formal CQI program. However, GMU says that many of CQI's creative principles will continue to serve as driving forces of change. There is growing support at GMU for more formalized CQI training and education within administrative operations. This training may take the form of management clinics and a proposed "customer service boot camp" designed to help all levels of management better understand who their customers are (both internal and external), what their customers value, and how well their organizations are providing value. In addition, a Customer Service Quality Award, borrowed in part from criteria of the Malcolm Baldrige National Quality Award, is being offered in academic support departments to lay the groundwork for additional training and greater emphasis on organizational performance-measurement systems (customer satisfaction, error rates, cycle time, productivity, effectiveness, etc.).

Hindsight

If GMU could start its CQI implementation over again, it would:

- employ more experienced consultants to act as mentors;
- invest heavily in training videos and field trips to centers of excellence;
- train several facilitators simultaneously so that they could support and train one another and, through interdepartmental exchanges, serve departments other than their own;
- address changes in traditional rewards and incentive systems for staff and administrators as early in the implementation process as possible to encourage more celebration and documentation of improved customer service.

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GEORGIA INSTITUTE OF TECHNOLOGY

The Institution

Georgia Tech is a major publicly supported research university located in Atlanta, Georgia, that focuses on engineering and associated applied sciences. Its student enrollment exceeds 12,800. Of this number, 9,800 are undergraduate and 3,000 are graduate students.

Reasons for Embracing CQI

Three key factors led to Georgia Tech's adoption of CQI. The first was pressure from its corporate customers, particularly IBM, Milliken & Co., and Proctor & Gamble, who continue to see Georgia Tech as a key supplier of future employees. With great tact and finesse, they began to express their expectations for educational and research programs. The second pressure consisted of the Milliken TQM Challenge, which allowed fifty faculty to spend a week at the company's corporate headquarters learning about TQM; and the IBM-TQM Award Competition, which provided the institution with an opportunity to develop an institute-wide CQI strategy and the wherewithal to do it (Tech was one of nine colleges awarded $1 million IBM grants). The third factor was Georgia Tech's engineering culture, in which Continuous Improvement has been a way of life throughout the history of the institution.

Getting Started

Georgia Tech's initial champions were a professor in the School of Industrial and Systems Engineering, the dean of the College of Engineering, and the president of Milliken & Co.

Strategic Framework

In September 1992, Georgia Tech attempted to launch CQI into operations by using an institute-wide "cascade" approach. This involved forming a Quality Council consisting of the college's top administrative leadership, educating them about CQI principles and tools, and "cascading" this education down through the organization. Unfortunately, this strategy did not work well. In the fall of 1993, the institute shifted its approach, and proposals were solicited from academic and administrative units to become "CQI Champions" for 1994. Under this arrangement, the units receive priority for training resources and recognition from the administration. Five units were selected: the College of Engineering, the Georgia Tech Research Institute, the School of Management, the office of human resources, and the office of minority educational development. The units are moving rapidly to implement CQI into their operations.

Obstacles

Key obstacles to implementation of CQI into Georgia Tech's operations were a lack of focus and attention on committed units and the absence of sufficient facilitator support. Georgia Tech has found that it gains much more ground when it has a focused effort and when it supports units whose leadership is committed to CQI.

Also, because no campus-wide facilitator was hired until January 1994, the institute could not begin to meet the demand for training and process-improvement support until then. With regard to implementation into the curriculum, the principal problem has been a culture that is driven more by the needs of the disciplines than those of students and employers.

Key Successes

Significant gains have been achieved in the retention of undergraduate freshmen. This group's attrition rate for the first Fall quarter of 1993 was reduced by a third from the previous year. The overall GPA of minority freshman has improved over the past two academic years from 2.4 to 2.8, exceeding the overall student average of 2.6. Principles developed in Georgia Tech's minority retention program now are being extended to a program designed for all students that will combine a two-week orientation with the formation of residential "teams." These teams will take a course during the freshman year that features CQI instruction for personal and professional applications. A concurrent effort to improve instruction in introductory math and science courses also has been undertaken by the College of Sciences. The CQI Champions (noted above) have been selected and have begun to implement CQI principles and tools into their operations. Five CQI seed grants have been funded to position Georgia Tech for national CQI research-funding programs. An International Center for Continuous Quality Improvement will be opened late this year to promulgate CQI and to establish Georgia Tech as a national leader in the field. Finally, with the cooperation of the Southern Association of Colleges and Schools, Georgia Tech's ten-year regional accreditation will focus on evaluating the institution's strategic-planning and Continuous Quality Improvement efforts.

Academic Activity

Georgia Tech has focused its academic implementation of CQI on three objectives. The first is to concentrate on bringing CQI into the curriculum in the College of Engineering and School of Management. The second focus is to retain freshman through the integrated program described in **Key Successes.** Third, outcomes assessment for undergraduate majors, mandated by the Georgia Board of Regents, is being used as a vehicle for developing a curriculum Continuous Improvement program.

Faculty Resistance to CQI

The problem has not been resistance, it has been indifference. As a result, Georgia Tech is focusing its CQI resources on those faculty who have an interest in advancing CQI.

Next Steps

See **Key Successes** and **Academic Activity.**

Hindsight

Georgia Tech would not try to implement CQI into operations on a comprehensive basis using the "cascade" approach, nor would the institute depend on a Quality Council to drive CQI efforts. Instead the institute would have focused its implementation efforts on "CQI Champions" from the outset and given the Quality Council the responsibilities of Quality communications and recognition.

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LAMAR COMMUNITY COLLEGE

The Institution

Lamar Community College (LCC) is a comprehensive community college located in rural Colorado that serves more than 1,500 academic and vocational students annually.

Reasons for Embracing CQI

In the mid-1980s, the LCC campus leadership recognized that the college needed to position itself to provide high-quality services and learning experiences if it was to continue to grow and flourish into the next century. Facts supporting this conclusion included the declining population base of LCC's service area, the college's location (200 miles from the nearest population center), and the lack of "high-profile recreational drawing cards" to attract students. High-quality, student-centered learning was LCC's best hope for long-term viability. LCC not only faced challenges recruiting students, but also received fewer resources to accomplish its educational mission. Funding for Colorado community colleges in real dollars has declined steadily since the early 1980s. The exploration of Quality by LCC's leadership led to the conclusion that the application of TQM concepts and tools could position the college to accomplish its desired goals of high-quality learning experiences and increased enrollment.

Getting Started

LCC's president and top-level leadership were the college's initial Quality champions. The president, two vice presidents, and an associate dean were the first to be introduced to TQM concepts, and they agreed that LCC should pursue campus-wide implementation. Other staff were invited to join the exploration process, ultimately forming the initial Quality Council. The president has maintained the momentum for the continued implementation of Quality, which has led to considerable modification and restructuring of the campus.

Student services was the first campus department to implement TQM. The vice president for student services organized his department into teams and empowered them through shared decision making and increased responsibility to carry out the day-to-day operations of the department. Within a few months, the instructional department was organized into teams, and the facilitators of each team formed a group known as FACT. FACT's role is to coordinate campus teams, remain sensitive to cross-functional issues, facilitate administrative issues, solve problems, and keep student learning as the focal point for all campus teams.

The vice president of administrative services resisted implementation of TQM concepts. As a result, virtually no progress was made in that area until a replacement was hired. The new vice president for administrative services introduced the team concept in the business office almost five years after the rest of the campus began its initial implementation.

Strategic Framework

The Quality Council received Quality training at the Fox Valley Quality Academy (housed at Fox Valley Technical College, Appleton, WI) and made the ultimate decision to implement Quality at LCC. The council consisted of classified staff, faculty, mid-level managers, the college's vice presidents, and the president. The chair of the college's Advisory Council also was included

in this process. During the first six months, the council appointed a Quality coordinator, who served in that function for approximately one year.

The college conducts ongoing training for classified staff (e.g., secretaries, custodians, cashiers), faculty, and administrators using training materials purchased from Fox Valley Technical College and modified to meet LCC's specific needs. (See **Fox Valley Technical College,** pp. 43-47.)

Obstacles

The primary obstacle to TQM implementation has been a lack of resources for continued employee training. In addition, TQM implementation has placed a heavy burden on faculty and staff time through its numerous demands — accountability, academic initiative reports, academic master plan reports, the budgeting process, the development of long-range plans, and ongoing training.

Key Successes

Immediately following the initial decision to pursue a Quality transformation, LCC began to develop baseline data. This process included conducting a campus climate survey and a student opinion survey prior to campus training to assess student perceptions of LCC's learning climate and learning process.

In the fall of 1990, LCC used the Rensis Likert Associates, Inc. Survey of Organizations 2000 (SOO-2000, a nationally normed instrument) to gather data about its organizational climate. Each employee provides feedback about the work environment, describing what the situation is and what the employee thinks it should be. The college has conducted the survey every year since 1990, and the campus climate has shown improvement each year.

The results of the student opinion survey indicated that LCC had either maintained or improved its performance in all areas assessed. Student feedback on LCC's learning process via IDEA (a product of the Center for Faculty Evaluation and Development at Kansas State University) indicates that LCC faculty are perceived to be in the 90th percentile of all colleges participating in the IDEA data base.

The college's primary goal in implementing TQM was to improve the overall campus culture. Data from the above instruments indicate LCC has been successful and is perceived by its employees as having improved the relationships among classified staff, faculty, and administrators.

Although LCC did not implement TQM to save money, the college notes that after five years, faculty, classified staff, and administrators all are producing more work with fewer resources. The teaming process allows staff to accomplish more with less. The campus has not attached a dollar savings to its new processes for conducting day-to-day activities, but FTE (full-time equivalent student) growth has not been accompanied by an increase in the work force.

Academic Activity

All faculty departments were organized into teams immediately after TQM concepts were introduced. The faculty and staff have been working in a teaming environment for more than five years, and some faculty have experimented with TQM concepts in the classroom. Data collected by faculty is used to improve student learning experiences. The teaming process also

involves the faculty directly in the day-to-day instructional improvement process with the vice president for instruction.

LCC also was one of the first colleges in the nation to begin offering a degree in TQM. The courses are taught by LCC faculty and are the core of a management degree in TQM.

Faculty Resistance to CQI

LCC's TQM experience met with passive resistance in its initial stages. Nevertheless, a few LCC faculty are beginning to experiment with TQM strategies in the classroom and to use some TQM tools to measure student performance. Most faculty view teams, which are now the mechanism for shared decision making at all levels of the campus, as an improvement over former ways of conducting campus business. LCC has attempted to counter resistance from faculty primarily by (1) being patient; and (2) continuing to encourage faculty to participate in training and conferences on the Continuous Improvement process. Another strategy has been for LCC's upper-level administrators to "walk the talk" of TQM as they go about their daily work. However, they frequently find that external forces do not allow for extensive internal dialogue before action must be taken. As a result, employees are prone to criticize upper-level management because they do not allow the time for appropriate campus input through the team process.

In 1989, the state of Colorado required all colleges to develop an accountability process that included the development of assessment practices to measure student learning. This has lessened faculty resistance somewhat. LCC has been collecting assessment information in two ways: (1) the IDEA instrument provides feedback from students on classroom learning; (2) the Student Opinion Survey, conducted by the American College Testing Company (ACT), assesses general student perceptions of the overall campus learning environment. These two instruments formed the basis of LCC's accountability process, which has evolved to collect data on student performance in specific classes. The campus currently is developing data banks that catalog trends in classroom learning.

The accountability process has made all college employees more aware of the connection between classroom learning and the campus organizational structure. The campus community is becoming aware that the organizational structure of the institution can either help or hinder learning processes.

Next Steps

The college has learned much about itself, the team process, the appropriate strategies for the implementation of TQM, and how to develop strategies that will ensure the college's long-term growth. From January to June 1994, LCC will be engaged in a major planning initiative. The campus will be rethinking its planning strategies, restructuring the campus organization and various positions, redefining the relationships of mid-level managers, and developing a strategic plan.

From January to December 1994, the college plans to fully implement a new management structure. The college currently has management teams operating in each department on campus, and for the last year, the campus leadership has been organized into an Executive Leadership Team. LCC's long-term plans are to link the individual management teams with the Executive Leadership Team on an All-Campus Management Team. This latter team will meet twice monthly to keep the Executive Leadership Team informed of each departmental team's suggestions on

items such as policy, budget, long-range plans, philosophical changes for the campus, and day-to-day operations.

Hindsight

LCC began its implementation of TQM without specifically revising the college's long-range strategic plan. Because of the president's commitment to and emphasis on the TQM process, TQM briefly became the vision for the campus and, in the minds of some LCC employees, the college was 'about' TQM implementation." The president now believes that LCC should have revised its strategic plan to demonstrate that TQM was only a means for achieving its desired outcomes. A focused strategic plan could have saved frustration and might have prevented some resistance.

LCC also would invest in professional TQM trainers. The college relied on several employees with other full-time commitments to conduct training. The first priority for these employees was, understandably, their jobs; TQM training received secondary emphasis. If the president were to implement TQM over again, he would make a primary reallocation of resources to ensure an ongoing training process that would provide support and assist employees with the practical, day-to-day use of TQM tools to achieve Continuous Quality Improvement.

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MARICOPA COUNTY COMMUNITY COLLEGE DISTRICT

The Institution

The Maricopa County Community College District (MCCCD) is composed of ten separately accredited community colleges and one skill center, all located in greater metropolitan Phoenix, Arizona. The district's combined, year-round, "unduplicated" enrollment for the 1992-93 academic year was approximately 180,000. It is the nation's second-largest multicollege community college district.

Reasons for Embracing CQI

MCCCD's CQI initiative was not a response to specific pressures or forces threatening its position as an education and community leader, although MCCCD did lose a capital bond election in June 1992. MCCCD embraced a Quality Improvement initiative for five reasons, all internal: (1) the desire to remain a leader in the community and in the educational arena; (2) the need to become more focused on those the district serves; (3) the desire to end "turf battles" among the colleges and between the colleges and district office; (4) the potential of the human side of Quality; and (5) the advantages of providing a systematic approach to decision making.

The third reason relates to a feeling that a balance is needed between the colleges' autonomy and the collaboration between and among them — especially in times of tight budgets. Because MCCCD is driven by FTSE (full-time student equivalent) numbers, the colleges have tended to be competitive about enrollment. The district's leadership felt that an increased focus on students as customers might result in more collaboration among the colleges. With regard to the difficulties between the colleges and the district office, there was a feeling at MCCCD that the district office could improve its relations with the colleges by regarding them as its "customers" as far as providing services was concerned.

Getting Started

Maricopa's chancellor appointed a study commission in 1992 to investigate TQM and recommend a course of action for MCCCD. Those individuals held many different positions — presidents, vice chancellors, management staff, support staff, faculty. CQI was successfully implemented in one of the MCCCD's colleges, Rio Salado, before it was embraced by the entire district. (Rio Salado implemented CQI in the spring of 1991, while MCCCD's implementation began formally in October 1992.) (See **Rio Salado Community College,** pp. 77-78.)

Strategic Framework

MCCCD's chancellor appointed a district-wide steering team called the Quantum Quality Executive Council and encouraged each college to establish a similar steering team. The chancellor and each college president appointed a Quality coordinator from among currently employed staff. Quality Improvement is part of everybody's job, so there is no Quality office or Quality manager whose sole responsibility is Quality Improvement.

Obstacles

The key obstacle to CQI implementation at MCCCD has been simple passive resistance to change; active resistance has been minimal. In fact, the only example of active resistance was a report drafted by a few faculty at one MCCCD college that opposed some of the statements in the initial study commission's report. However, the faculty report was not widely disseminated or read. Still, there may be other individuals who are passively resisting MCCCD's CQI implementation.

Other obstacles cited by MCCCD include a lack of time, a lack of knowledge about CQI, and a lack of funding for training. Time is an obstacle, since people have a perception that if someone is in training, then important work is not getting done. In addition, staff have said that their "heavy workloads" have prevented them from attending training sessions. The lack of knowledge about CQI relates to the fact that some faculty and administrators are unable to see clearly how CQI can be adapted to higher education. The lack of funding for training is a problem that MCCCD has had to overcome, primarily because the district did not budget for training soon enough in the implementation process.

Key Successes

MCCCD cites several successes, the foremost being its CQI training program, which was developed by one of its colleges to prepare a cadre of "trainers" to train other employees. The program involves four hours of CQI awareness training and forty hours of project-team training. Each college and the district office has a team of trainers that includes a representative from the faculty, the administration, and the staff. The diversity of the training teams has been very advantageous to the training effort.

Other successes include the formation of numerous teams district wide to improve processes and performance and an increase in the effectiveness of meetings, resulting in a more efficient use of employees' time and a reduction in employee frustration. In addition, draft vision and mission statements have been developed by MCCCD's governing board, and weekly communication on the Quality initiative is delivered via electronic mail to all employees.

Academic Activity

A number of faculty voluntarily use CQI tools and techniques in the classroom and conduct team projects. Faculty are regularly invited to attend video conferences and "dialogue" days where CQI is the focus. MCCCD's faculty-development coordinators are focused on improving institutional effectiveness through Quality measures. Also, MCCCD has a certificate program in Quality Customer Service and soon will have an associate degree program in Quality. In addition, Quality courses are being offered at all MCCCD colleges.

Faculty Resistance to CQI

Very early in MCCCD's CQI implementation, some faculty voiced concerns that the initiative would adversely impact their work agreement. The concern was that CQI would change the RFP (residential faculty policies), which are established during an annual "meet and confer" process with faculty. Faculty feared that the administration would mandate actions that could not be negotiated, or that the administration would unilaterally change the RFP provisions. To alleviate these fears, MCCCD's steering team issued a statement that the Quality initiative would not impact the faculty work agreement.

Otherwise, MCCCD faculty members have been fairly supportive of the college's CQI efforts. Training efforts were led by Rio Salado faculty, and one member of each college training team is a faculty member. Further, several members of the Quantum Quality Executive Council are faculty members. Also, many faculty, especially those involved with business and industry training, are heavily involved with and committed to Quality.

Next Steps

MCCCD's future emphasis will be on improvement teams, success stories, and a Baldrige criteria self-assessment process. The district has a number of study teams working, which will lead to the formation of improvement teams. MCCCD plans to continue to identify its critical processes, conduct an organizational climate survey (to determine how MCCCD's employees feel about the organization and their place in it), strengthen its institutional research unit, work on greater customer focus, and continue to encourage the integration of CQI in the classroom.

Hindsight

MCCCD would spend more time talking about organizational and cultural change and the Quality initiative to better prepare its employees for the transformation.

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MARIETTA COLLEGE

The Institution

Marietta College, chartered in 1835, is an independent, predominantly residential undergraduate institution that offers a contemporary liberal arts education. Located in southeastern Ohio, the college also is an important resource to the area. Marietta has approximately 1,100 students.

Reasons for Embracing CQI

Marietta's reasons for embracing CQI were primarily internal. As the college developed a new vision for the twenty-first century, those involved in the process realized that the college needed to improve its ability to respond to a changing marketplace. It also became clear that CQI would be an important framework for achieving the new college's vision and goals.

This new vision stated that Marietta was to "become one of the best and most contemporary liberal arts colleges in the nation." To become one of the best would require extensive benchmarking and measurement and much greater knowledge of both the institution's customers and the changing academic "marketplace." Knowing that to carry out the vision and to create such an institution would call for a flexibility and adaptability that only the top "Quality" companies possess, the president committed the campus to CQI. He believed that to accomplish the institutional vision, the campus would have to become a learning community, and that every member of the college would have to be involved in the process and skilled in the use of Quality tools to achieve it.

Getting Started

The initial Quality champion was and remains Marietta's president. His vision and belief in the importance of mobilizing the intellectual capacity of the entire institution were critical to gaining the acceptance of the cabinet and administrative officers. Early on, he appointed a special assistant for TQM training and programmatic support. Areas early to embrace TQM were the records office, some faculty members (business and engineering), student affairs, and campus security.

Strategic Framework

Marietta has an assistant to the president for TQM and a cross-functional, vertically and horizontally integrated Quality Management Steering Committee. The committee is composed of members representing multiple constituencies on Marietta's campus. For example, members include cabinet members (the vice president for finance and administration and dean of the leadership program), the registrar, campus public safety officers, and technical and clerical workers. This group of twelve individuals touches nearly every area of the campus to support, encourage, and teach Quality principles, as well as to coordinate the actions of its Quality teams.

Obstacles

Key obstacles are the wide variability of acceptance and routine use of TQM principles on campus. Marietta does not, at this point, have incentives built into its management systems to reward involvement and problem solving using CQI. System alignment is necessary for consistent use.

Marietta College is set in the context of a predominantly Appalachian culture, where acceptance of any change tends to be slow. This reluctance to change also is reflected in Marietta's staff. While every employee receives training in TQM tools, only some go on to practice CQI in their daily work. For example, some of Marietta's managers will use CQI to accomplish one thing and in the next instance revert back to the way they have always done things. Marietta's slowness to update its technology and outdated organizational structure have not supported TQM work. Currently, the college's computer and telephone/communications systems are being updated to determine which system elements obstruct TQM activity.

Key Successes

- Marietta has linked strategic decisions to customers' expectations/perceptions.
- Staff are increasingly aware of the various contributions they make to larger cross-functional processes. Often, an initial focus on improving communications and relationships across units facilitates the improvement of operations.
- The records office increased the efficiency of the registration process, eliminating the need for one week's work by temporary employees (salary cost) and an increase in its hours of operation.
- Marietta's customer satisfaction factors are assessed yearly by a comprehensive student perception survey. Students are asked "how the college is doing" in a structured way. The new student center was designed from information received in this survey, and now the level of student satisfaction with the center is being assessed.

Academic Activity

CQI has moved slowly to the academic side. Faculty teaching courses on TQM use the tools and methods of TQM as a teaching/learning strategy. Several other instructors are using aspects of TQM in teaching and assessment.

Faculty Resistance to CQI

Marietta has addressed faculty resistance by inviting faculty to participate in training and to join cross-functional teams. Faculty are concerned about viewing students as "customers" and the impact it will have on grades. They are concerned about changes that are not faculty initiated, and the concept of a "team" is foreign to the organizational structure that has worked well for them over time (committees that go on forever). Marietta's support for CQI has come from key faculty leaders who became curious about CQI activities and now are serving on or working with Quality teams. The provost has tied TQM training ideas to professional development for department chairs and to departmental assessment activities. Thus far, Marietta has been only moderately successful in bringing faculty into the process. It needs a few more highly successful teams that include faculty to increase faculty support and commitment to the CQI process.

Next Steps

- Identify core institutional processes and find "owners" for them.
- Work closely with functional units to improve their processes.
- Train the entire campus in the areas of information technology, interpersonal processes, and TQM tools and methods.

Hindsight

- Marietta would change the human resource aspects of the organization (performance appraisals, job descriptions, rewards/recognition) earlier in the implementation process to clarify the expectations of all employees concerning their roles for bringing about operational improvements.
- The college also would ensure that managers at all levels clearly understood the skills and competencies needed to become a manager in the "new" organization, and it would institute the appropriate incentives.

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NORTHWEST MISSOURI STATE UNIVERSITY

The Institution

Established in 1905, Northwest Missouri State University is an accredited, primarily residential, public regional university with approximately 6,000 students and more than 235 full-time faculty. Northwest offers a broad range of baccalaureate programs, various master's degrees, and a specialist degree in education. In addition to the graduate school, there are four colleges: Agriculture and Science; Arts and Humanities; Business, Government, and Computer Science; and Education.

Reasons for Embracing CQI

The source of Northwest's interest in CQI has been primarily internal. Since the president arrived nearly ten years ago, he has challenged the university community to set high standards of quality in all areas. Three themes have permeated the numerous presentations he has made on this topic: (1) Northwest's students have placed their futures in the hands of the university, trusting it to provide them with a quality education; (2) rising societal expectations in the context of a global economy/community require higher standards of quality; and (3) as one of the smaller of twelve state-supported institutions in Missouri competing for scarce legislative dollars, and as an institution situated in a region with a declining population, Quality is the only way to ensure Northwest's long-term future.

Getting Started

The vision of a master plan to create an organizational culture accepting of Quality initiatives came from Northwest's president. He conceived of and led the development of a strategic Quality plan called the Culture of Quality, which contains forty goals and forty-two action steps for improving the quality of Northwest's undergraduate education. It was adopted in 1987 and has more or less been completed. The initial champions of this document were the students, faculty, and staff who served on the committees that authored the plan. Despite the fact that Northwest's plan began with the academic side of the institution, the institution's contracted service areas (such as ARA Campus Dining and ServiceMaster) were probably the quickest to translate the cultural ideals undergirding the plan into customer satisfaction. Today, the Culture of Quality Review Committee, consisting of students, faculty, staff, and community representatives, is updating the plan using the Malcolm Baldrige Award criteria.

Strategic Framework

The original plan was developed by a broadly representative master-plan steering committee. From the beginning, the strategy has been to integrate the Culture of Quality document into the daily workings of the university. Each time the president has a cabinet or administrative council meeting, the topic "Culture of Quality" appears on the agenda. This same commitment is asked of all deans, chairs, and directors to emphasize the importance of integrating Quality concepts throughout the university. A Continuous Quality Improvement Team composed of middle managers also has been formed to generate and review ideas on how to integrate Quality concepts into the various services on campus. This committee developed Northwest's

"Commitment to Service" — a six-point Quality statement that hangs in every main office on campus.

Obstacles

Resistance to change and objections to the language and processes of business, particularly by faculty, have been key obstacles to CQI implementation at Northwest. Change does not come easily in higher education, especially for faculty, who have achieved their successes as individual competitors, not as team players. Some Northwest faculty "wonder if CQI is a fad, and if so, they hope to wait long enough so they can avoid change." For several years, there was tension on campus over whether or not Northwest should be discussing improving quality. Some faculty went so far as to claim that committing to improving quality was an implicit admission that the university had not been doing a good job. Others objected to the language of CQI — especially the use of the word "customer" — and the processes of business as they translate into higher education. However, Northwest seems to have overcome these obstacles. Today, departments are defining key Quality indicators and benchmarking superior processes. A January 1994 convocation was expanded into a mini-symposium featuring various faculty team efforts that have improved quality.

Key Successes

The most visible and applauded result of the Culture of Quality program at Northwest has been cost savings through increased efficiency. There are numerous examples: faculty salaries have risen at 150 percent of the CPI for the last ten years, equipment and operating budgets have been greatly enhanced, campus facilities are in top shape, and healthy reserves are now in place. The university's service areas have been focusing on Quality Improvement for some time. For example, the environmental sciences department decided to convert all paper waste into pellets to be burned to heat the campus; this will almost entirely eliminate Northwest's need for fossil fuel.

Academic changes have been equally profound, although not as dramatic. The most modern and extensive campus computer network in the nation links every faculty member and student by placing terminals in every office and residence hall room. Video, voice, and data are transmitted via this system. A Writing Across the Curriculum program has increased writing assignments by 72 percent. A widely acclaimed undergraduate research program is in place. A Talent Development Center manages a comprehensive assessment program. These are but a few of the many changes that have taken place under the Culture of Quality. Indeed, as a result of this program, Northwest is not the school it was ten years ago.

The most exciting current successes center on faculty teams working toward restructuring Northwest's general education program into an entirely different format based upon TQM concepts of trust, empowerment, and accountability.

Academic Activity

Currently, Northwest is in the midst of an effort to "reinvent" campus governance. "Organizational key Quality indicators" have been identified as a framework that must be translated into all policies and procedures. These aim to create an organization that will (1) stimulate creativity, innovation, and Continuous Quality Improvement (bureaucracies frequently inhibit these); (2) facilitate team approaches without destroying individual initiative; (3) require cost-benefit

analysis by all decision makers; (4) foster management-by-fact; (5) locate decisions closest to the source of information; (6) focus on the customer; and (7) align incentives with the above goals. As a result of these changes, the role of the deans and department chairs is being radically redefined.

During the summer of 1992, Northwest hosted the Fourth Annual Total Quality in Government, Industry, and Education Symposium. The theme was "Continuous Quality Improvement: Making the Transition to Education." The symposium proved to be an "inspiring and stimulating" experience for the Northwest faculty who took part along with 400 other participants from throughout the United States.

The College of Business has been consciously incorporating the concepts of Continuous Quality Improvement into its curriculum, including a course entitled Total Quality Management.

Faculty Resistance to CQI

There was "stubborn optimism" by the president of Northwest that CQI could be applied to higher education faculty and staff. After the Culture of Quality Review Committee successfully applied the Malcolm Baldrige National Quality Award criteria to important administrative processes, faculty — the most resistant to change — were "more willing to listen" to the establishment of a Culture of Quality at Northwest.

There was also an increased level of credibility established when the key leaders on campus, who were on the Culture of Quality Review Committee, began to voice the merits of the process. The university has supported the management/marketing department (in Northwest's College of Business, Government, and Computer Science) and the curriculum and instruction departments (in the College of Education) in their efforts to lead Northwest's CQI implementation. Faculty who serve on accreditation teams also are seeing a positive connection with CQI. Northwest has provided funding for faculty and staff to attend workshops, symposiums, and seminars on Quality. The president frequently contributes essays on Quality issues to the university's *Northwest This Week* publication. The successes of the Culture of Quality Review Committee and of numerous academic departments have demonstrated that with persistent education through funded conference, workshop, or seminar attendance, there is great potential for the use of CQI in higher education.

Next Steps

Northwest has undertaken several initiatives that will not be completed until the next academic year:

- During the next year, Northwest plans to realign the budget to be more in line with the key Quality indicators submitted by the deans of each college. The budget will be much more decentralized, so as to push the decision-making process down to the departmental level. The budgets also will give faculty more say over how their portion of the money is spent for faculty development and equipment.
- Northwest has a team of faculty "grappling" with the complexities of integrating the university's general studies to create a more meaningful learning experience for students.
- An outside consultant will train support staff for a day, working with the key Quality concepts already accepted by the Support Staff Council.

- Northwest will continue to use the Baldrige criteria as an assessment device in the Culture of Quality Review Committee. The committee also is assessing how faculty, staff, and administration view the Quality work environment. The university will use this information to put together a new strategic plan reflecting the Baldrige criteria and will submit an application for the Missouri Quality Award.

Hindsight

First, Northwest would move more quickly to implement CQI, at the same time realizing that it may not be realistic for changes in an institution of higher education to move much faster and have a sustained impact. Second, Northwest would provide more training for faculty and staff throughout the learning process and quickly make changes when useful information was identified that could affect CQI.

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THE PENNSYLVANIA STATE UNIVERSITY

The Institution

The Pennsylvania State University, incorporated in 1855, offers studies in approximately 160 baccalaureate and 150 graduate fields and granted almost 12,500 degrees in 1992-93. In 1991, Penn State ranked eleventh among American universities in research expenditures (with more than $268 million). Penn State's University Park campus, located in State College, Pennsylvania, is the administrative hub of the institution, enrolls more than half of all Penn State undergraduates, and is the primary site for graduate study.

Reasons for Embracing CQI

The initial efforts to bring Continuous Quality Improvement to Penn State were guided primarily by the executive vice president and provost. In the late 1980s, while dean of Penn State's College of Engineering, he initiated discussions within the university about TQM and its applications to engineering education. Upon becoming university provost, he initiated the presentation of CQI concepts university wide to both academic and administrative leaders.

CQI was begun for a variety of reasons, but principally because the provost believed that it could generate improvement and positive change. But there were pressures for change, too. CQI was seen as a way of responding to the voices of various university "customers": College advisory boards with corporate representation were asking the university for graduates with an understanding of TQM and its processes and systems; state legislatures and other government bodies were calling for increased accountability in higher education; and students and their families were more clearly expressing their needs and expectations. The state of the economy also forced Penn State to reexamine the efficiency and effectiveness of its practices.

Getting Started

Penn State's initial CQI champions were the university president and the executive vice president and provost. The first CQI team was a cross-functional team organized within the College of Engineering and the Eberly College of Science to study the process of teaching physics to engineering undergraduates. By January 1992, two teams had been appointed in the Smeal College of Business Administration to study freshman orientation and the intake and reception process in the college's undergraduate student advising center.

Strategic Framework

In the fall of 1991, the president and the executive vice president and provost charged a university-wide council to study Total Quality concepts and their use in higher education and to develop strategies for the university's practice of Continuous Quality Improvement. The University Council on Continuous Quality Improvement (UCCQI) includes administrative and academic leaders from across the university. The UCCQI has participated in ongoing education and training opportunities and sponsors teams within various academic and administrative units. In April 1992, the council established the CQI Center and appointed an executive director, who reports to the provost. The center helps units clarify or define critical processes, provides assistance in the implementation of CQI teams, maintains a support network for team facilitators, assists

in the establishment of "just-in-time" team training, provides information about CQI activities and process improvements within the university, and monitors Penn State's corporate partnerships.

Obstacles

Many in the Penn State community accept the philosophy and principles of CQI but question the institution's ability to respond to changes that may require major paradigm shifts, e.g., seeing the student as a customer, providing rewards and recognition for teamwork, and moving from detection and inspection to prevention. The language of CQI and its manufacturing origins also have proven to be obstacles on the academic side. While there are many university processes that are similar to business processes and that lend themselves easily to TQM methods (budget and finance, facilities maintenance, printing services, food services), these may not be the most critical processes to student or corporate customers. The difficulty lies in implementing CQI in the core processes of the university; unless Continuous Improvement impacts the teaching/learning process, it is not affecting the mission of the institution.

Key Successes

Key accomplishments have occurred in four main areas:

I. University Council on Continuous Quality Improvement

- The council has guided the development of a vision, guiding principles, and a problem-solving model for the practice of CQI at Penn State; initiated a university-wide review of policies and practices that inhibit Quality; identified several of the university's key processes; and appointed cross-functional teams to study the relationship of Continuous Improvement principles to (1) the university's rewards and recognition programs; (2) customer communications and expectations; and (3) key processes.

II. CQI Teams

- More than ninety Continuous Quality Improvement teams have been formed, many of these benefitting from just-in-time CQI education and training. These teams, which are monitored through a facilitator/leader network, have generated process improvements in more than fifteen administrative units and in seven academic colleges.

III. Corporate Partnerships

- In September 1992, IBM awarded a $1 million grant to Penn State in an effort to accelerate the teaching, research, and use of Quality Management principles in higher education. Penn State was one of nine colleges and universities selected from more than 200 applicants.
- In a national competitive program sponsored by a consortium of business and academic leaders, Penn State was selected in April 1993 to be a partner with DuPont in the 1993 Total Quality Business and Education Partnership program.

IV. Strategic Planning

- Conceptual linkages have been established between Continuous Quality Improvement and the university's strategic-planning goals. In the 1994-95 strategic-planning guidelines, all academic and administrative units have been requested to begin benchmarking one or more of their key processes.

Academic Activity

- Curriculum Design. CQI has been integrated into the undergraduate and graduate curricula in the Smeal College of Business Administration and the College of Engineering. For example, in the 1994-95 academic year, each of the four undergraduate core business courses will include Total Quality components. These courses not only will integrate TQM into the curriculum, they will be *conducted* using Total Quality principles. An interdisciplinary seminar in the practice of TQM for seniors in engineering and business administration has been offered, and three specialized business courses on TQM for senior students will be offered in 1995-96. In graduate education, a joint master's degree in Quality and manufacturing is being developed, and Total Quality principles are being integrated across the core courses of the MBA program.
- Research. Most of Penn State's TQM research is housed within the College of Engineering, where researchers are attempting to (1) quantify the benefit of a specific process improvement vs. a plant-wide or corporate improvement program; (2) use feedback mechanisms to reduce variability; and (3) improve graphical methods to communicate knowledge about process factors and process behavior.
- Teaching. As part of the IBM grant, a master teacher team consisting of eight award-winning teachers from business and engineering was appointed. Team members benchmark one another's classes, compile their "best practices," participate in CQI training, and interact with university leadership. More than a dozen faculty currently use Quality Improvement techniques in their classroom.
- Advising. In the Colleges of Education, Business Administration, and Health and Human Development, academic advising centers have developed CQI teams to study their processes.
- Supplier Linkages. In the College of Education, the Center for Total Quality Schools was established in 1992 to help primary and secondary schools implement the principles and practices of Total Quality Leadership (TQL). The center provides a place for school personnel to receive structured TQL training, as well as an active research program for TQL in the schools.

Faculty Resistance to CQI

Penn State anticipated faculty resistance and was not disappointed. However, this resistance was not explicit. The university invited faculty involvement early in the implementation process — a strategy that met with mixed results. Some faculty believed that TQM was appropriate in finance and business operations but not in academic areas. Others saw TQM as something in which the Colleges of Engineering and Business might have some interest. And yet others realized the possibilities for the application of TQM principles both in their academic department and in their classroom.

The university has made several efforts to educate faculty and academic administrators about TQM. In June 1992, Penn State hosted a Total Quality Conference for academic deans and other academic administrators. Presenters were well versed in TQM in both higher education and industry. In August 1993, 120 faculty and academic administrators attended a three-day workshop on CQI principles and applications sponsored by DuPont at its headquarters in Wilmington, Delaware. (DuPont is Penn State's Total Quality Business and Education partner.)

Penn State's executive vice president and provost has personally presented information seminars to faculty. Faculty concerns also have been addressed through other means, such

as discussion panels and bimonthly columns in the *Intercom* (an internal faculty-staff newspaper) and a monthly newsletter.

Next Steps

Penn State's future goals for CQI implementation include the following:

- improve existing institutional policies and practices (e.g., performance appraisal, rewards and recognition programs) to reflect a philosophy of Continuous Quality Improvement;
- develop a process for collecting ongoing internal and external customer data; and
- maintain and enhance partnerships with DuPont, IBM, and other corporate sponsors.

Hindsight

- Develop the long-term strategies necessary for implementing a *culture change*, recognizing that university leaders will need to find new ways to communicate effectively with the various segments of the academic community. Acknowledge the importance of developing a framework that addresses the nuances of this Quality culture.
- Orient CQI efforts toward improvement in general and not the adoption of CQI specifically; resist the jargon of CQI; refrain from seeing CQI as an end in itself; emphasize that CQI is a *tool* for change.

In the final analysis, what the institution is trying to encourage is a culture that fosters and supports change.

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RIO SALADO COMMUNITY COLLEGE

The Institution

Rio Salado Community College is a member of the Maricopa Community College District in Phoenix, Arizona. (See **Maricopa County Community College District,** pp. 61-63.) Rio Salado does not have a traditional campus, but instead uses classroom sites throughout Maricopa County. Rio Salado annually serves 28,000 credit students and 10,000 noncredit students.

Reasons for Embracing CQI

Rio Salado's current president, who came to the college in September 1990, was the principal catalyst for CQI implementation. Her desire to bring CQI to Rio Salado was not in response to any pressures, forces, or needs related to the college; she simply wanted to introduce more horizontal leadership and increase efficiency and responsiveness.

Getting Started

The primary champion of Rio Salado's Quality initiative has been the president of the college. The initiative was college wide from the beginning — the first teams formed were cross-functional. Rio Salado's Total Quality Management Strategic Planning Steering Team includes CQI leaders from all sections of the college.

Strategic Framework

The steering team has guided the implementation of TQM within Rio Salado, and a Quality coordinator was appointed to oversee the day-to-day management of the initiative.

Obstacles

Rio Salado cites the following obstacles to CQI implementation at the college:

- Finding time for training and team meetings has been a challenge for the entire college. On average, each employee has participated in eighty hours of training.
- General confusion over the different decision-making styles (i.e., authoritarian, consultative, participatory, and consensual) and when it is appropriate to use each.
- Management and supervisory personnel have varying degrees of commitment that greatly impact CQI implementation within each work unit.
- Some employees have a difficult time applying CQI principles and tools to their daily work.

Key Successes

Rio Salado's greatest success has been the sense of teamwork that has become pervasive throughout the college; with a shared vision, there is a constancy of purpose that was lacking previously. Many areas of the college have improved their processes. For example, the schedule CIT (Continuous Improvement team), which worked to improve the process of developing the college class schedule, saved $25,000 the first semester it implemented its improved process. The bad debt CIT, which worked to improve the process of collecting outstanding debts from

students, saved $6,504 its first semester. In addition, internal and external customers are reporting higher satisfaction levels.

In October 1993, Rio Salado was awarded the Arizona Governor's Award for Quality — 1993 Pioneer. The college was one of eight recipients and the only public-sector recipient. The award is patterned after the Malcolm Baldrige National Quality Award, except that private-sector and public-sector organizations compete equally.

Academic Activity

Implementing TQM in the classroom has been Rio Salado's "proudest achievement." Teachers and students work together to identify a process that needs improvement and build their solutions on data, observations, and input from both students and faculty. Through these projects, students learn what TQM is and how to apply TQM tools and techniques, see the results of TQM activity, and "feel at home in a TQM environment." Most importantly, students take an active role in their education and make informed decisions about how to improve their own learning.

Faculty Resistance to CQI

Rio Salado has experienced no faculty resistance to TQM implementation. This is believed to be the result of its implementation strategy, which included faculty from the very beginning. Faculty participated in the very first meeting to decide if the college would start a Quality initiative and have been involved in every way since. All training has been "vertically integrated/cross-functional," and faculty serve on similarly constructed Continuous Improvement teams. Faculty are also part of the steering team.

Next Steps

Phase one of Rio Salado's TQM implementation strategy has been fully implemented; the steering team is conducting a self-study to develop phase two. Several areas that the college will continue to address are classroom initiatives throughout the curriculum; the identification, study, and improvement of critical processes; the use of TQM philosophy, tools, and techniques in daily management; and benchmarking.

Hindsight

Rio Salado would have better prepared its employees by providing more early-awareness building, both in the Quality philosophy and the change process. The college also would have spent more time, distributed more information, and provided more opportunities for employees to engage in discussion to increase their understanding of Quality.

The college also would have given early teams more direction, set clearer boundaries, and identified all projects as key processes. There would have been continual communication between the team and its sponsor (or the steering team) to eliminate potential problems and to keep all parties informed.

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ROCHESTER INSTITUTE OF TECHNOLOGY

The Institution

Rochester Institute of Technology (RIT), a coeducational career-oriented university located in suburban Rochester, New York, is the seventeenth-largest private university in the United States and houses the country's fourth-oldest and fifth-largest cooperative education program. The Institute is composed of eight colleges, including the National Technical Institute for the Deaf. RIT has approximately 11,000 full-time undergraduate students and 2,000 graduate students.

Reasons for Embracing CQI

Initially, the College of Business (COB) embraced CQI as a means of distinguishing RIT from its peer institutions to increase enrollment. While such an outcome is still desired, CQI now is recognized as a better way to accomplish RIT's goals, which include improving the teaching/learning process and better satisfying the requirements of its students' employers. There have been some very positive results in both the educational and administrative areas.

Getting Started

RIT's initial CQI champion was a former CEO of Xerox Corporation. He convinced the dean of the College of Business (COB) that TQM concepts could work in an academic setting. The dean then became an internal advocate and champion and soon was joined by the College of Engineering. A former Xerox vice president joined the COB and has been an excellent advisor and CQI spokesperson on campus. Administrative divisions working to improve customer service also have embraced the CQI concept.

Strategic Framework

CQI was launched at RIT through a series of introductory faculty/administrator meetings, the distribution of selected readings describing and explaining TQM principles, and discussions of the potential benefits of adopting these principles. These initial discussions were followed by two retreats in which faculty and staff received preliminary TQM training from corporate trainers. Next, faculty drafted and adopted vision and mission statements.

Once faculty and staff had accepted CQI principles in general, they received additional and more intensive training. Representatives from RIT attended a week-long training session conducted by IBM as part of Motorola's "University Challenge." In this program, a group of six corporations, spearheaded by Motorola Corporation, offer their expertise on CQI to a select number of institutions.

Internally, as faculty and staff have become more knowledgeable about CQI, they have undertaken the training of other groups within the Institute.

Obstacles

There have been two key obstacles to CQI implementation at RIT:

- Incomplete understanding of the CQI principles led to inefficient implementation. Although results were achieved, they usually took more time than anticipated and sometimes required

subsequent modification or correction. Thus, the movement toward CQI progressed, but with more difficulty than was initially expected, which created frustration.

- A lack of acceptance of CQI principles by some COB academic areas, the result of either a reluctance to change or philosophical differences, has created uneven results. While one discipline or administrative unit works toward CQI, it may find its efforts hampered by resistance in another group.

Key Successes

The selection of RIT as a winner of the Motorola "University Challenge" (see **Strategic Framework**) and as a recipient of a $1 million IBM-TQM Partnership Grant (one of eight awarded in September 1992) are important external accomplishments, providing validation of the Institute's efforts, additional training opportunities, and funding to continue its efforts. The establishment of the RIT/*USA Today* Quality Cup (an annual award given to teams that make a significant contribution to a company's success) was also a significant accomplishment, allowing RIT to recognize team efforts in CQI and providing concrete, real-life examples and case histories for RIT's students. Internally, a key accomplishment has been the revision of the COB promotion and tenure norms, making them more compatible with CQI efforts.

A COB staff team, trained in process improvement, has successfully reviewed and changed a number of college operational processes. The team (1) studied the course withdrawal process and eliminated two required signatures; (2) studied the Institute's centralized, automated system for room scheduling and recommended the purchase of additional terminals, allowing each department to make its own room reservations and obtain student information and class lists; and (3) recommended that the supply allocations for the graduate and undergraduate programs be combined. Based upon its successes, the COB staff team has provided, on request, training or consultation to all major administrative units within the Institute.

In addition, RIT has had some success in developing a student teaming approach within classes. All entering freshmen and transfer students take a required course in Quality concepts. Students are divided into teams and taught team decision-making methods. Much of the coursework then is performed by teams rather than by individual students. This concept has been expanded into approximately 50 percent of the courses taught at RIT.

Faculty have developed a number of continuous feedback methods designed to improve the instruction in the Quality concepts course. Some faculty ask students to provide feedback at the end of each class. This feedback identifies the important points covered in class as perceived by the student (which can be compared with the major points the faculty member tried to convey) and material that the students had difficulty understanding (which identifies areas that need more work in the initial presentation, as well as those that merit further in-class review). Other faculty use daily or weekly questionnaires that measure the amount of time students spend doing homework and include an assessment of how the homework, reading material, and classroom instruction contributed to students' learning.

Academic Activity

From the beginning, CQI implementation at RIT has been on both the administrative and academic sides. For example, on the academic side in the COB, implementation includes (1) offering new CQI/TQM-related courses, including a series of required freshman- and sophomore-level courses that teach all students CQI concepts, including teaming; (2) revising/redesigning the

entire undergraduate curriculum by cross-functional team, a more interdisciplinary approach; (3) changing promotion and tenure norms to encourage CQI activities; (4) replacing academic departments with disciplinary teams, department chairs with self-selected team leaders, and allocating salary increases to teams based upon team performance (team members then allocate the team's share to team members based upon individual performances); (5) initiating continuous feedback mechanisms in many courses; and (6) measuring classroom results and sharing teaching process ideas through a newsletter and seminars.

Faculty Resistance to CQI

Most faculty resistance resulted from a lack of understanding of CQI and how it would work in an educational setting. These concerns were overcome through education and training. Once the CQI approach was approved by a majority of the faculty, those few who continued to resist were informed that CQI would happen with or without their help, and that, "career-wise," moving to another institution might be preferable to active resistance. This reduced explicit resistance caused by the feeling that CQI was a fad and not worth the investment of time or effort. As CQI at RIT has progressed and more faculty have seen positive results from this approach, peer pressure has reduced most of the remaining resistance to this change; most team members are not reluctant to pressure those who are not contributing to the team's efforts.

Next Steps

The next steps planned at RIT are:

- Greater improvement in teaching and student advising. This is ongoing CQI that probably never will be completed, but most efforts to find and eliminate problems are likely to be completed within one to two years.
- Dissemination of CQI concepts across the Institute. Although this is a continuous process, the initial phase will be completed within one year.
- Development of better metrics to enable COB to better measure improvement. RIT plans to complete this step by the end of 1994. The establishment of good metrics is important since faculty team performance will be measured based upon improvements.
- Dissemination of CQI concepts outside of the Institute. This process has begun, with a small number of papers being presented and articles published. Dissemination is expected to increase as RIT's successes grow and may be a year or two away for most faculty.

Hindsight

In hindsight, RIT would "do the same thing again, but . . . faster and without mistakes." While RIT would do more or less the same things, it also would develop better measurement techniques sooner so that the Institute could validate improvements.

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ST. JOHN FISHER COLLEGE

The Institution

St. John Fisher College is an independent four-year liberal arts institution in the Catholic tradition of American higher education. Located in suburban Rochester, New York, the college enrolls approximately 2,700 full- and part-time students in its undergraduate and graduate programs.

Reasons for Embracing CQI

Fisher began implementation of CQI in 1988. The college's primary reasons for establishing a Quality program were driven by a careful analysis of the institution's current and anticipated future position within an increasingly competitive higher education environment. Throughout the 1970s and early 1980s, Fisher experienced steady enrollment growth and sound financial health. However, by the mid-1980s, the combination of a continued increase in staff and a relatively flat enrollment had produced a steady decrease in net revenue that jeopardized the college's financial health. In addition, as a result of being asked to "do more with less," many staff were exhibiting frustration and a sharp decrease in morale.

Getting Started

With encouragement from two members of Fisher's board of trustees who had been involved with similar processes at their places of employment, Fisher's president investigated the merits of a Quality program and soon was convinced of its applicability to an academic environment. The college's initial emphasis was to introduce and spread the Quality message to administrative and support areas within the institution. There were early successes both within administrative departments and among teams encompassing cross-functional areas (the admissions office, computer center, and campus post office in one project; and the financial aid office, computer center, and development office in another). As soon as these success stories began to emerge, the entire administrative side of the campus began to realize the value of utilizing Quality tools and techniques. Within two years, Quality teams were in operation campus wide.

Strategic Framework

The Eastman Kodak Company "loaned" Fisher an executive who worked with the institution two days a week for an entire year, assisting in Quality training and working on teams to solve long-standing problems. In addition, the college's registrar was appointed assistant to the president for quality leadership and received eight weeks of full-time training in Quality at Eastman Kodak. Lacking a "blueprint for Quality," Fisher's early strategy consisted of weekly meetings among the president, the Eastman Kodak executive, and the assistant to the president for quality leadership. The chief products of this early phase of implementation were valuable training programs and the formation of far-reaching Quality teams.

Approximately two years after Fisher's Quality initiative began, the assistant to the president for quality leadership and five staff/faculty members who had exhibited leadership in Quality formed the Quality Council. The council's initial purpose was to establish strategy and methods to move Fisher's Quality program to the next level. However, it soon became apparent that the president and his senior staff, not the council, would have to assume this task. This

shift to executive-level planning and implementation occurred in 1990 and remains the manner in which Fisher initiates and carries out its Quality program.

Obstacles

Fisher encountered some initial opposition during Quality training and education, mainly from staff who were opposed to understanding and embracing Quality and reluctant to use Quality tools such as facilitated meetings, consensus building, and flowcharts. Two primary assumptions fueled this opposition: (1) that CQI was simply a way for the administration to get employees to "work harder," and (2) that once the reduction of waste in job processes and other improvements were achieved, the number of employees would be reduced. The latter obstacle was all the more challenging in light of the low morale and "suspicion and distrust" prevalent at Fisher when the Quality initiative was begun. Following a number of "honest, face-to-face meetings" between staff and administrators, and after the presentation of "hard evidence" that jobs would not be eliminated because of the use of Quality principles, the early fears of staff diminished and eventually disappeared.

The length of time that teams need to learn and apply CQI tools and methods properly continues to prompt a certain amount of staff resistance. Originally, many staff viewed Quality as an "instant elixir" to all their problems; however, they are beginning to realize that more time, effort, and money can be saved in the long run if the proper investment of time and energy is made up front.

Key Successes

Fisher's earliest successful Quality initiative was to reduce the response time to prospective students' requests for catalogs, viewbooks, and other printed material from eight weeks to five days. However, Fisher's biggest success has turned out to be the increase in employee morale, an area not deliberately targeted for improvement. In 1988, when Fisher began to implement Quality initiatives, employee morale was low, and teamwork and cooperation were limited. Today, as a result of Quality training, work on teams, public recognition of Quality results, and the college's first Annual Quality Day (held in June 1993), employees "feel good" about their work. There is greater perceived cooperation and teamwork among departments, offices, and employees and a "genuine feeling" that they are working together to make St. John Fisher a good place to work and to attend college. In a recent survey, 85 percent of the administration/staff members who responded said they were satisfied with their jobs, as opposed to 63 percent of the faculty.

Employees now routinely think of their "customer(s)" before making decisions and/or changing processes, and they are able to think in terms of long-term benefits when addressing a problem rather than attempting to implement a short-term "fix." Through extensive brainstorming and teamwork, each administrative office on campus has identified its customer(s) and has employed surveys and focus groups to determine what steps to take and which processes to improve to increase customer satisfaction. Each year, every office completes at least one major improvement project and showcases the results at Fisher's Annual Quality Day, held in June.

Examples of "major improvement projects" that have been completed are:

- a new employee appraisal system (the Performance Planning Process) designed, developed, and implemented by a cross-functional team responding to customer (employee) input and

suggestions;

- an on-line drop/add system that has improved accuracy and response time for both students and faculty;
- a reduction in the amount of time and energy needed to complete daily trash pick-up, achieved by working in teams and flow-charting the process; and
- an automated registration system that has substantially reduced the amount of time students spend waiting in line to pay their bills and that has simplified the billing statement and the billing process.

Academic Activity

In 1992, after the Quality program had "taken root" in the administrative areas, Fisher introduced the faculty to Quality. The greatest strides have been in the management department. Peter Kolesar, from Columbia University's Deming Institute, spoke to the college's MBA faculty; and the chair of Fisher's management programs has attended Quality meetings sponsored by Proctor & Gamble and Motorola. As a result of this exposure, the management department now offers a Quality "track" in the MBA program; and a new undergraduate course in Quality, to be taught by full-time faculty from the management department, will be offered beginning in Fall 1994.

A small group of Fisher's faculty, representing many different academic departments, has been meeting with the assistant to the president for quality leadership for a year and a half to learn about Quality and to discuss how Quality principles can be introduced to the classroom. Although there has been progress in this area, participants report that it has been "slow in coming."

Faculty Resistance to CQI

Faculty have not resisted Fisher's efforts to implement CQI so much as they lack information about Quality and what it entails, but that is changing. Many faculty members have participated in Quality surveys and focus groups as customers of various administrative areas, and they have become aware of tangible improvements in administrative services as a result of Quality initiatives. Several faculty also have been asked to participate on Quality teams when their input and expertise has been appropriate. As a result of this modest exposure to Quality, there has been a noticeable increase in the number of faculty who have expressed an interest in learning more about CQI.

Next Steps

Fisher plans to take two major "next steps" in its implementation of CQI. First, the college plans to involve faculty to a much greater extent in the Quality process. Fisher's next accreditation visit from the Middle States Association of Colleges and Schools will be conducted in 1995, and the college realizes that assessment will and must play a major role in determining the institution's effectiveness. Accordingly, the college feels that the linkage between Quality and assessment is critical. The faculty role in this process is at the heart of Fisher's academic mission, and there will be an emphasis on faculty education and commitment to this process during the next year or so.

Second, the college will begin to provide more pertinent, customized, "just-in-time" education for its employees. Fisher believes that the college's administrative employees have been effectively educated in Quality tools, philosophy, and techniques during the last three

years. Particular pride is taken in the fact that the training has been totally planned, organized, and taught by senior staff members and other Fisher employees. Each employee has received at least a four-hour orientation to Quality, plus an additional eight- or twenty-hour block of more extensive Quality training. For example, all administrative employees have been trained in the use and construction of the basic tools of Quality (flowcharts, affinity diagrams, Pareto charts). However, if, in the process of working on a project, an office or a team identifies a need for further, more in-depth instruction in one or more Quality tools/principles, the college feels it should respond immediately with the appropriate instruction. To address this potential need, Fisher plans to provide customized, "just-in-time" education for all employees.

In addition, Fisher conducted an all-day, eight-hour Quality education program for student leaders in Spring 1994. Students learned how to use Quality principles to manage their social, governmental, and residential organizations more efficiently and in a more cost-effective and all-inclusive manner.

Hindsight

First, Fisher would not jump immediately into training and then simply sit back and wait for Quality to "happen." Instead, the college would spend time "up front" to ensure that the president and the senior staff clearly understood what the institution was getting into, and to establish a strategic plan detailing where the institution wanted the program to go and how it planned to get there. After this was accomplished, a comprehensive education program for administrative employees would be started.

Second, Fisher would not rely so long on the traditional "corporate" model of Quality but instead would choose one that more closely fits the institution's unique history and culture. The college took two years to feel comfortable enough with its own knowledge of and "fit" with Quality before it was confident enough to adopt an academic model. In the process, Fisher expended a great deal of time and energy that could have been "better spent" on training that was more relevant to higher education and improvement projects that were more closely tied to the needs and mission of the institution.

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SAMFORD UNIVERSITY

The Institution

Samford University, founded in 1841, is a private, Southern Baptist-affiliated comprehensive university located in Birmingham, Alabama. The university houses Schools of Arts and Sciences, Business, Divinity, Education, Law, Music, Nursing, Pharmacy, enrolling approximately 4,400 students (3,000 full-time undergraduate, 1,000 full-time graduate, and 400 part-time professionals).

Reasons for Embracing CQI

Samford's reasons for embracing Continuous Quality Improvement were primarily internal. CQI coincided with Samford's overall effort to achieve academic renewal and a recommitment to its distinctive mission as it approached the sesquicentennial of its founding. The Quality effort grew out of a general belief held by both the president and provost that Samford could do things better and needed to pursue a strategy of "organized betterness." Since Samford charges two-thirds the tuition of schools comparable in size and reputation, and since circumstances do not allow it to attempt "tuition catchup," given its constituency and environment, everything must count or add value.

Getting Started

Initial champions of Samford's Quality effort were the president, provost, and the director of quality assessment. CQI has made significant inroads into admissions, the School of Education, the library, and the School of Pharmacy, as well as in a variety of administrative and physical plant functions that cut across departmental lines. Samford's leadership committed to Quality Improvement in November 1989. Senior leadership began learning about Quality in February 1990 and began implementation with the Fall 1990 semester.

Strategic Framework

In 1990, the "Student-First Quality Quest" was advocated by a lead team of individuals who reported directly to the president, plus several others who represented areas of special or technical expertise. The president's management team met separately to manage the university, which meant that the university's key line leaders were meeting twice — once to discuss "Quality," and once to discuss "real" management issues. Eventually, these two meetings were merged, and the lead team pared down to the Quality Council. The Quality Council now includes major line officers of the university who report directly to the president, plus the controller and the quality assessment facilitator. The Quality Council is the steering committee of the Quality movement. In addition, the Quality assessment office offers education and training in Quality.

Obstacles

- A reluctance and inability to view students as customers.
  At the beginning, there was deep concern about viewing students as customers. To some faculty that meant that students should be pleased at all costs, that learning/teaching would be reduced to a crass commercial exchange, and that students would decide what they

would be expected to learn. Seeing students as customers of administrative processes also has been difficult for some administrators and staff. For example, some tend to dismiss common student concerns: "Well, students always have and always will gripe about food services."

- Difficulty operating in a cohesive way.
  The primary building block of American higher education is the self-contained course. Faculty members are free to teach their courses as they see fit toward objectives they choose. The teacher not only instructs but also tests students, which means that requirements may vary among teachers. As salaried employees, faculty often function as independent, fee-paid professionals.
- Historic independence of faculty.
- Traditional fences between and among academic disciplines and administrative functions. Boundaries abound in academia. The territorial boundaries among schools and disciplines are largely defined by professors' graduate disciplines. Professors become proprietary about courses. "Us vs. Them" dynamics develop between faculty and administrators. Working cross-functionally in the academy is analogous to interdisciplinary curricula and instruction. The history of curricular reform is strewn with the wrecks of attempts at interdisciplinary studies. The imprint of graduate disciplines profoundly influence the way faculty shape the curriculum.

Key Successes

- Renewed emphasis on the centrality of the student.
- Development and piloting of a process by which faculty can involve students in the improvement of classes.
- Revised, mission-centered budgeting process.
- Numerous policy changes to reduce complexity and increase "user (i.e., student) friendliness."
- Consciousness-raising concerning the need for more training of all kinds within the university.
- Two significant conferences on Quality Improvement in higher education.
  The first was primarily internal, done through the School of Pharmacy. The second was for presidents and other top higher education administrators from across the country.
- Publication of *Quality Quest in the Academic Process* with GOAL/QPC, a Boston-based research and consulting firm (with partial support from a Fund for the Improvement of Postsecondary Education grant).
- Redirection and reorganization of the university library.
  As a result of significant Quality improvements in the university library, it has (1) dramatically expanded its services to the university with no increase in budget or staff, (2) flattened its organizational structure, and (3) simplified and increased the efficiency of several processes.
- Use of Quality Improvement techniques in the search for and selection of administrators. For example, in the search for a new dean for the School of Education, the search committee used several Quality planning tools (the "ability to facilitate the work of others" emerged as a key trait). The person eventually selected was a school superintendent who had practiced Quality Improvement in her system. She has proven to be unusually effective in bringing the education faculty and staff together to effect major improvements.
- Renewed emphasis on retention.
  Samford's most comprehensive, cross-functional team to date has spent almost two years

reviewing the freshman-year experience. As a result, a freshman orientation course, Freshman Forum, has been completely restructured. Samford also anticipates having a respected faculty member lead the integration of freshman academic, student-development, and administrative processes to optimize the freshman-year experience.

- A deep commitment to assessing institutional effectiveness.
  This is now a major requirement of the Commission on Colleges of the Southern Association of Colleges and Schools (SACS). CQI provides an improved model for using assessment results more effectively.

Academic Activity

- The university offers both undergraduate and graduate CQI courses.
  (1) A new freshman mathematics course in Samford's experimental, interdisciplinary, cornerstone core curriculum is built around the quantitative tools of Quality Improvement.
  (2) Student body leaders, along with faculty, have developed an elective course entitled Quality Leadership, which is offered in the School of Education.
  (3) Several business courses now include Quality concepts and statistical tools.
  (4) Two new graduate education courses in Quality will be offered and cross-listed with courses in other schools.
- Quality teams have formed to improve classroom techniques and learning.
  The LEARN manual for the formation and leading of student Quality teams within individual courses, now used at a number of institutions, was developed at Samford. LEARN teams work to improve learning and teaching within a course. Samford hopes LEARN teams might eventually replace end-of-course student evaluations. Faculty have used LEARN in the Schools of Nursing, Education, Pharmacy, Music, and Arts and Sciences.
- The School of Pharmacy employed CQI techniques to design its doctoral program.
  The School of Pharmacy involved all full-time faculty in identifying competency outcomes for the new doctor of pharmacy degree. The specific tools used were expanded affinity diagrams, spider diagrams, and interrelationship diagraphs.
- Samford has introduced annual assessment, planning, and budgeting process in which all academic departments identify key customers, obtain feedback, and consider "alignment" with the university mission.

Faculty Resistance to CQI

- As indicated in **Obstacles,** some faculty are reluctant to see students as customers.
- The traditional model of academic excellence depends more on resources than on the optimization of processes.

What strategies have been used to overcome this resistance? Samford has tried to focus on the basic philosophic framework of CQI instead of emphasizing the seven statistical tools (Pareto chart, run chart, check sheet, cause-and-effect diagram, histogram, scatter diagram, control chart) and the Quality planning tools (affinity diagram, interrelationship diagraph, tree diagram, prioritization matrices, matrix diagram, process decision program chart, activity network diagram). Faculty and staff have been taught to use these tools, but the primary emphasis has been on the basic concepts. For example, the president wrote an early paper on the

controversial issue of "the student as customer." As a classical rhetorician, he suggested in his paper that Aristotle may have been the first to think seriously about the customer in his *Rhetoric*. The provost, as a theologian and Greek scholar, wrote a paper on Quality leadership that translates easily to the Judeo-Christian concept of the "servant leader." Deming beckoned his readers to examine basic presuppositions and enter new frames of thought. Why not ask the intellectual community to use its intellectual talents to think about its work and organization? That is, why not ask communications faculty to analyze and suggest improvements in campus communication? The psychology and education faculty might assist other faculty in curriculum and instruction design. True Quality Improvement requires more than the adoption of conventional CQI tools. It means using the best of substantive theory and knowledge relevant to all areas of the academic effort.

The struggle is not yet over, and perhaps never will be.

Next Steps

- To map, measure, and improve Samford's interconnected set of cross-functional systems.
- Assessment using the Malcolm Baldrige National Quality Award criteria during SACS 1994-1996 reaccreditation.

Hindsight

Despite its mistakes, Samford cannot suggest how to start clean and neat with no pain or mistakes. An institution begins where it is and persists. Quality Improvement in one area will, over time, cause the institution to look at all its major systems. Eventually, everything is connected to everything else.

In looking back, more specific how-to training probably would have helped, although there is serious question about training everyone on a fixed schedule. Nevertheless, it might have created wider understanding sooner. Such widespread training would be greatly enhanced if the senior leaders trained those who worked directly with them, and then those so trained could train those who work with them. The consistency of such cascaded training could be improved by supplying simple training manuals and aids for all to use.

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SOUTHERN COLLEGE OF TECHNOLOGY

The Institution

Southern College of Technology, located fifteen miles northwest of Atlanta in Marietta, Georgia, was founded in 1948. A senior college in the university system of Georgia, Southern Tech offers associate degree transfer programs, a bachelor of architecture degree, bachelor's degrees in several areas of engineering technology and related fields, as well as four master's programs. The college offers both day and evening classes and has approximately 4,000 full-time students.

Reasons for Embracing CQI

Southern Tech has been involved with the Quality movement for a number of years. Its industrial engineering technology (IET) department has offered an option in Quality assurance since 1985 and has awarded a master of science in engineering technology with a concentration in Quality assurance since 1989. In 1988, the Center for Quality Excellence was established as an independent, nonprofit corporation at Southern Tech at the request of the Atlanta section of the American Society for Quality Control. However, the college itself did not begin to embrace the Quality movement internally until 1992, when it received a $1 million grant from IBM (along with its partner, Clark Atlanta University) to implement Total Quality Management principles at the college.

The awarding of the grant came at a particularly challenging time in the history of the institution. Southern Tech had just undergone two years of massive budget cuts and staff layoffs. Services to students had been cut dramatically, and the remaining administrators and staff suddenly were working in an environment with no job security, heavier work loads, and less money. Faculty also felt the crunch, having to assume many of the responsibilities previously handled by administrative areas. Students became very vocal and active as a result of cuts in services and reductions in the hours of operation of certain facilities. Morale was at an all-time low, and serious divisions had been created among faculty, staff, and the administration. This crisis caused many to look upon the grant and the transformation process of Continuous Campus Improvement with a renewed sense of hope, while others viewed the grant and its implications with skepticism and resistance.

The college has undergone tremendous growth in the past ten years — expanding its academic programs and facilities and increasing its enrollments. With this expansion has come the realization that the college must change the way it does business. Pressure for change has been mounting and, with the receipt of the grant, the movement for change has gained momentum. Pressure to move forward has emerged from faculty members who helped to write the grant and who are committed to the IBM obligation.

Pressure from outside the college also has been building for several years from Southern Tech's external customers (the employers of its students, the clients of its Center for Quality Excellence, and the business community as a whole.) The college found itself in the untenable situation of teaching Quality to others but not practicing Quality internally.

Getting Started

The IET faculty (the initial champions), who for many years have helped businesses and industries implement their Quality initiatives, were instrumental in working with the dean of the School of Technology to establish the Center for Quality Excellence and in helping the top-level administration to recognize the benefits of having such a resource on campus. The director of the Center for Quality Excellence also supported the Quality effort by speaking to various campus groups and by drafting and submitting the application for the IBM grant. With the receipt of the grant funds, the commitment to the new management approach solidified, and several new champions emerged: the vice president of academic affairs, the moderator of the faculty senate, and faculty members from both the IET and the School of Management.

Strategic Framework

Southern Tech has taken a more long-term approach to Quality by choosing to focus on the educational process before creating a strategic infrastructure. Initially, internal experts lobbied for a Quality council as part of the college's larger Quality framework. This process might have worked if the majority of the campus community had possessed the level of awareness and/or understanding of Quality that these internal experts had achieved through their years of experience and training.

However, since most of Southern Tech's employees had no knowledge of Quality concepts, the faculty senate and staff council met together throughout the first year to study proposals from various groups on how the process of Continuous Campus Improvement might be undertaken. These two groups represented every employee on campus, and all members were nominated and elected to their positions. At the end of the year, these two groups made a recommendation to form a Continuous Campus Improvement Committee (CCIC), which would be a subcommittee of a newly organized twenty-three-member Professional Development Committee (PDC). The PDC, formed in the summer of 1993, is composed of elected faculty members and appointed staff and administrators. Because the CCIC consists of seven members from the PDC, it also has both appointed and elected members. The faculty senate and staff council groups charged the CCIC with determining the best way to educate the campus about Quality principles and implementing a Quality Management system.

Although it may seem insignificant how the group was composed, in essence the composition was the result of many long hours of debate and discussion. The administrators and staff wanted to be appointed, and the faculty wanted to be nominated and elected. Therefore, the process by which this initial committee was formed reflects how different campus subcultures operate, as well as the current campus climate.

The CCIC members all felt that they needed to better understand the principles of Quality before they could make a recommendation on how to educate and orient the entire campus. At the same time, the president and his staff recognized that they, too, needed training if they were going to lead the school in the Quality transformation.

The president and his staff and members of both committees took advantage of an offer by IBM to participate in a fifty-hour course taught by an IBM employee on the underlying philosophy of Quality. This course also included the chairs of both the staff council and faculty senate. At the end of the course, the CCIC, in consultation with the chairs of the faculty senate and staff council, voted unanimously to hire the IBM course instructor and to use the classes as the primary vehicle of campus-wide education. Ultimately, this training will give the campus

a common understanding and language to use as a foundation for implementing Continuous Campus Improvement.

Southern Tech has chosen not to establish a separate Quality office, because Quality is believed to be the responsibility of the entire campus community. However, an office has been set up to work exclusively with the IBM grant. Presently, the facilitator of the fifty-hour course, a coordinator, and a support staff person are assisting the president and CCIC in the transformation process. These three individuals have more than seventy years of combined experience in education and business.

Obstacles

The major obstacle to CQI implementation has been finding the time to accomplish the education and training that must occur prior to CQI implementation. Southern Tech believes that the top leadership team must have a clear understanding of the transformation that must take place, as well as the skills to lead the campus in this effort. Without this foundation, Southern Tech will find itself locked into its old mental models, trying to improve processes that may no longer be relevant in a continuously improving environment. Southern Tech also believes that, in addition to this understanding and attitude change, the college's leadership must learn and practice the skills that will enable them to make the behavior changes that are essential to the overall success of the transformation. Training facilitators have found that the ground rules had to be clearly established to allow freedom for individuals to challenge the course content and one another. Helping class members recognize the difference between hostility, skepticism, and acceptance has been one of the greatest challenges of teaching the classes.

Key Successes

Southern Tech is still very new to its Quality transformation. Its major successes thus far have centered around the synergy generated by all levels of employees participating in the fifty-hour classes on the principles of Quality. Each class is limited to twenty students. Individuals who may not have met prior to the class find themselves learning and working together. They bring various campus perspectives and diverse educational and personal life experiences. Through class interactions, a new appreciation of the problems faced by faculty, staff, students, and administrators has been discovered. The classes also have given student leaders a unique perspective with respect to faculty and staff and the complex issues they must deal with on a day-to-day basis. In a seminar feedback session with the first four student leaders who attended the classes, many positive comments were made.

In addition, an issues list is compiled at the end of each class session. These lists are being collected by the CCIC and eventually will be used to begin Southern Tech's improvement projects.

Three things have had a powerful impact on Southern Tech's progress to date: (1) The president made a commitment to participate in the initial educational effort. He committed not only himself but also his staff and the academic deans to attend the fifty-hour course. He faithfully attended classes, completed the homework, and was very active in class discussions and interactions. This was done in the midst of his already heavy workload. He felt he must set an example for others by participating in the educational process himself. (2) The president involved the faculty senate and staff council from the beginning and gave them the authority to recommend how to proceed with Quality implementation. (3) Student leaders were invited

to attend Quality classes and to participate as members on Quality teams. These students have provided fresh insights to the classes that have been indispensable.

Academic Activity

As mentioned in **Getting Started,** Southern Tech's IET department has incorporated courses in Quality assurance into its curriculum for more than thirty-five years. As a result of the college's educational efforts, the School of Management designed a course on the philosophy of Total Quality Management, which is now required in its baccalaureate degree.

Also, all full-time faculty members either have been or will be participants in the fifty-hour course mentioned earlier. As a result of this educational experience, many faculty members have reported trying some new educational strategies in their classes.

Faculty Resistance to CQI

Resistance to change is natural and expected, especially when people are being asked to transform their thinking and behavior. However, faculty resistance has been minimal because the initiative for the educational effort came from a lengthy study conducted by the faculty senate, and faculty members were nominated and elected by their departments to serve as members of the Professional Development Committee and the Continuous Campus Improvement Committee. Faculty also are serving on the committee that is leading the transformation.

Most resistance from faculty is, in a way, historical. Numerous strategies have been tried before to manage large-scale change on campus and have failed. Faculty feared that the Quality transformation was just another thing they had to do. Many faculty feared that top-level administrators would not "buy in" to the Quality process and therefore were reluctant to make a commitment themselves.

Some faculty even felt that participating in the orientation and education classes was an infringement of academic freedom and a form of coercion and indoctrination.

Next Steps

Southern Tech plans to continue its classes for all employees and student leaders until this phase of implementation is completed. The president and his staff have begun skill-development seminars based on a publication by the Joiner Company entitled *A Practical Approach to Quality: Six Strategies for Beginning the Quality Transformation.* This approach focuses on top managers becoming leaders, exemplars, and teachers of Quality. These seminars will continue for the next two quarters (Spring and Summer 1994) and will cover the topics of team development and communication skills. The college also plans to hold quarterly meetings with all of the employees and students who have completed the classes to reinforce the learning that has occurred.

After reviewing several implementation models, the CCIC is recommending that the president's leadership team, the staff council, and the faculty senate work together to lead the Quality transformation. Cross-functional teams would be coordinated through a mechanism established by the structures already present on campus. The CCIC would serve as a bridge until the educational phase of the campus is completed. In the meantime, they are identifying key initiatives that need to be started, using the results from a two-day assessment workshop

sponsored by IBM in 1993 (see **Hindsight)** and the issues lists being generated from each of the fifty-hour classes. CCIC's long-term goal is to be obsolete within two years.

Hindsight

Although the president's staff, the academic deans, and department heads attended the fifty-hour class and embraced the need to change and the need to manage differently, it is now clear that more training and follow-up sessions in teamwork and leadership are necessary. As the campus "catches up" in knowledge, expectations grow. Meanwhile, the president, deans, and academic department heads need time to effect the process of change.

Southern Tech also would wait to train all the necessary groups before addressing areas for campus improvement. During a two-day assessment workshop conducted by IBM that was based on the Malcolm Baldrige National Quality Award criteria, twenty-five individuals, representing a cross-section of campus offices and academic departments, focused on identifying areas for campus improvement. Although this helped to bring disparate segments of the campus together to establish a baseline for implementation, these areas for improvement were established before all of the necessary education and training was completed. At that point, the "brakes" had to be applied in the workshop, which caused frustration for those who just wanted to "do it."

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UNIVERSITY OF ILLINOIS-CHICAGO

The Institution

The University of Illinois at Chicago (UIC) is one of two campuses in the University of Illinois system, which was formed by the 1982 consolidation of two campuses, the University of Illinois at the Medical Center and the University of Illinois at Chicago Circle. Today, UIC is a comprehensive research campus and the largest university in Chicago. With thirteen colleges and schools, UIC has a total enrollment of 25,200 students (6,500 graduate, 2,500 professional, and 16,200 undergraduate). UIC's undergraduate student population is representative of its setting, with more than 10 percent black and 17 percent Hispanic participation. The College of Medicine consistently ranks first in the nation in the combined number of black and Hispanic physicians in its graduating class. Its 400-bed hospital admits 16,000 patients annually and also serves 300,000 outpatients and 40,000 emergency patients each year.

Reasons for Embracing CQI

On October 31, 1991, UIC's senior managers (vice chancellors, deans, and others) met at the annual chancellor's retreat to discuss the concepts of Total Quality Management and to examine their potential applicability to the university. Although there were no specific external pressures that placed TQM on the agenda, as the day passed and as UIC's operational problems were shared, the general consensus of the participants was that employees were being blamed for the majority of the university's problems. The civil service system, labor unions, and the lack of competitive salaries all were identified as causes that greatly affected the quality of the staff's efforts. The overall mood of the retreat reflected a high level of frustration and anger. The chancellor responded to these concerns and attitudes by making the commitment to explore — on a pilot basis — the adoption of Quality Management principles at the university.

UIC's ultimate adoption of the Quality Advancement process was established primarily to respond to the university's internal need to become a more humane organizational environment.

Getting Started

The chancellor was considered UIC's initial TQM champion. Because of his understanding of TQM principles and the potential impact of TQM, he committed the time and resources necessary to establish a pilot effort. The university also hired an associate chancellor for planning and policy development, who had experience with TQM applications in educational organizations and was responsible for getting UIC's pilot effort under way.

Senior management selected a dozen processes that would be the focus of the pilot phase. Based on discussions held during the chancellor's retreat, these issues were primarily administrative. Several teams were established in the office of business affairs, one in the library, one in the office of student financial aid, one in the office of admissions and records, one in the eye and ear infirmary, two in the vice chancellor for research's area, and one in the personnel office. Most of the teams were functional, with team members coming from one office; two teams were cross-functional, with members representing various offices that co-owned a particular process.

Strategic Framework

The initial stage of implementation was dedicated to increasing the awareness of the principles and values that define TQM for UIC's community in general, and for those managers establishing teams in particular. The Quality Improvement Task Force, composed primarily of senior and middle managers involved with the pilot teams, was established to assist and guide the adoption process. This task force acted as the initial campus-wide steering committee and met every two weeks initially and later once a month. The task force invited outside speakers to make presentations and to share their understanding and experiences with TQM.

Several managers from different areas within the organization already had begun to test these new concepts in their areas and had experimented with the formation of employee teams. As their efforts became integrated into the pilot effort, the associate chancellor asked these individuals to form a work group to assist with the operational implementation of the pilot process. This team met every two weeks and helped to determine the initial training needs and to develop strategies to increase the visible commitment of senior management.

From November 1991 through June 1992, the associate chancellor could dedicate only limited time to the pilot effort, since his position included other responsibilities. In June 1992, although the pilot process was still in its initial stages, positive employee and management responses prompted the chancellor to formalize the adoption process by establishing the Office of Quality Advancement (OQA). The associate chancellor and three other staff members were dedicated to supporting and guiding the adoption process. In June 1992, an external consultant led a two-day workshop for leaders and facilitators to prepare for the establishment of pilot teams.

Obstacles

The obstacles UIC faced have not been unusual. They reflect the process of a learning organization undergoing a cultural transformation. In the long run, the Quality Advancement process will affect all levels of the organization and will require significant changes in management styles.

- Even though the chancellor made the commitment to have a pilot process before formalizing the Quality Advancement effort, his initial involvement was limited to assigning responsibility and authority. After only a few months, he became aware that his active involvement and day-to-day actions were key indicators that would affect the buy-in by others in the organization.
- The UIC community's knowledge of TQM was elementary in nature, leading to comments by managers such as: "I am already doing it." The axiom that "the less one knows the more knowledgeable he believes he is" described the attitudes of many middle and top managers.
- Most senior managers were, and some continue to be, unable to connect the Quality Advancement effort to their areas of responsibility. Their instincts were to micro-manage, to control, to be impatient, to be tough, and to be quick. Their successful careers were linked to that style of management, they were hired on the basis of those strengths, and they found it difficult to embrace a new management approach.
- Many middle managers were unwilling to establish teams on their own because they did not think their managers were committed to TQM, and they were not willing to risk taking actions into their own hands.

- There was a sense of skepticism, based on a recent history of limited funds and staff reductions, that led many to believe that Quality Advancement was a tool to lay off employees.
- Some poorly designed efforts that utilized the TQM vocabulary — but not its principles and tools — were initiated in several units. These false starts served as proof to some employees that Quality Advancement might be another failed organizational fad.

Key Successes

Much has happened since the pilot process began. Since the inception of the Office of Quality Advancement, thirty-five employee teams have been established. Four of these teams did not complete their tasks due to various factors. Thirteen have completed process analysis and have implemented or are currently implementing their recommended improvements. Sixteen teams are in the midst of their quest to improve processes. In addition, the office is working with a special team in the library to reengineer the acquisitions cataloguing process. There are two new teams on hold awaiting training.

Counting the number of active teams and the impact of their solutions is a partial measure of UIC's accomplishments to date. There is a sense within the organization that an important effort is taking place, which indicates that UIC considers its employees as its most important resource, and that UIC pays attention to its internal and external customers. The resonance of the message is limited, but its vibrations are being felt. Other successes are listed below.

- Several recognition efforts have taken place:
  (1) The chancellor and vice chancellors have hosted breakfasts to welcome new teams and team members.
  (2) In June 1993, a recognition lunch was held for 200 team members. Each team summarized its efforts to date for the senior managers in attendance.
  (3) Management presentations are in fact celebrations of work completed. Each team is presented with a certificate of appreciation signed by the chancellor and the associate chancellor.
  (4) Once a month, an article written by a team member appears in the *UIC News*, the official campus newspaper.
- The education curricula have been improved and expanded. There are group dynamics/conflict resolution workshops for leaders and facilitators. Several just-in-time training modules are available for teams on measurement and on how to define mission, vision, and values.
- The establishment of teams is concentrated in fewer areas (although no one is denied participation in the effort). The library, the office of student financial aid, the office of business affairs, auditing, and auxiliary enterprises are the largest team growth areas.
- The chancellor and vice chancellors visited Motorola Corporation for one day in December 1993. They were highly impressed with the organizational values of that company and have gained a clearer understanding of the potential of TQM and of the role they must play in the university's effort.
- The following is a sample of the impact of teams' recommended solutions:
  (1) One team in the eye and ear infirmary analyzed a diagnostic process and reduced its cycle time from an average of 60 days (with a range from 10 to 120 days) to less

than 5 days, with minor variations. They currently monitor the process, and it appears to be in control.

(2) A cross-functional team working on the preproposal process for research contracts has recommended a simplified version of the process, which currently is being tested. Deans and research faculty have reacted to the improvements positively.

(3) The library team has reduced the time that it takes to make returned materials available to patrons from twenty-eight minutes to six minutes.

(4) A team in environment health and safety has recommended a new process that will ensure a substantial increase in accident analysis, with the expectation that it will lead to a reduction in injuries, thus protecting employees and saving funds.

Academic Activity

During Fall 1993, the associate chancellor began to establish contacts with faculty who might be interested in applying TQM concepts in the classroom and/or the research laboratory. An announcement produced a list of fifty names of interested faculty, and a dozen faculty members attended a meeting to initiate discussions. It soon became apparent that the faculty's knowledge of TQM was very sketchy, and a workshop on TQM and the classroom was scheduled for March 1994.

The associate chancellor met with the Council for Effective Teaching and Learning to seek its assistance, and its members made two suggestions:

- Small meetings should take place with faculty interested in incorporating TQM principles into the learning process.
- A forum should be planned for faculty, deans, and department chairs to learn what local companies that have adopted TQM — such as Motorola, Sprint, and Baxter — expect from UIC's graduates.

Two meetings were held with interested faculty, resulting in the formation of an informal team that will investigate, experiment, and develop models on how TQM can be integrated in the classroom to improve the learning process. By Fall 1994, there should be a number of courses offered in which students will play a visible role as owners of the learning process. It is expected that teams will be formed in some classes (similar to Belmont University's LEARN process), while in other courses students may be asked to provide evaluation at the end of each class session. These attempts should result in models that could be adopted by other faculty.

Also, work has begun in conjunction with the career services office to plan for a fall forum on employers' expectations of undergraduate skill and ability levels.

Faculty Resistance to CQI

There has not been any visible faculty resistance; apathy or disinterest might be a better descriptor. Lately, the content of the academic bulletin suggests that there is awareness of UIC's Quality Advancement efforts. In February 1994, the chancellor met with faculty who are heavy computer users. The chancellor referred to these faculty as customers, a term that one faculty member resented because his interpretation of a customer — in a TQM context — is someone who has funds to purchase services, and faculty, in general, do not have access to these resources.

Clearly, the lack of active and visible TQM champions in the academy has a detrimental effect on the overall impact of the adoption of Quality Advancement at UIC. Some opportunities

for university-industry partnerships have been lost, and real change that affects the learning process will be slower. The role and participation of the faculty will not hinder the adoption of Quality Advancement in the administrative areas, but it directly affects the organization.

Next Steps

- A campus-wide steering committee that represents UIC's community, including all employee groups and labor unions, will be established.
- A study will begin on how to formalize recognition/reward systems in view of team efforts.
- Business process reengineering will be used in the library to redesign the acquisitions cataloguing process.
- A process to restate UIC's mission will be initiated.
- Special attention will be given to employee orientation, since it is a critical point of contact between UIC and its new employees.
- Between forty and sixty new teams will be established.
- UIC will seek partnerships with industry.
- OQA will change continuously to meet the challenges of supporting an increasing number of teams.
- Senior management will network with managers from organizations that have substantial TQM experience.
- The weekly chancellor and vice chancellors' meeting will address, on a regular basis, the progress of current teams and the needs of the organization to effect cultural change.
- A data base system is being programmed to track team progress, participation, and training. Management reports will be generated, as well as progress reports for each team, to allow for timely and constructive diagnosis of progress.

Hindsight

The most critical aspect that affected the adoption of Quality Advancement was the lack of understanding by the chancellor and vice chancellors of their critical role in TQM implementation. They should have had opportunities to interact with, question, and learn about TQM from corporate leaders in the Chicago area. Early visits to local companies would have provided concrete examples on the impact of TQM, as well as the redefinition of leadership.

Managers' (team sponsors') lack of knowledge of the role they play in supporting teams also has hindered team performance. Finally, workshops that UIC now has in place, which provide a foundation in TQM principles and describe all interactions with teams and team leaders, should have been offered earlier to help pioneering sponsors deal with their anxieties about empowering employees and would have provided a common context for the formation and support of teams.

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UNIVERSITY OF MICHIGAN

The Institution

The University of Michigan, Ann Arbor celebrated its 175th anniversary in 1992. The Ann Arbor campus enrolls more than 36,000 students, including approximately 23,000 undergraduate students and 13,000 graduate and professional students. It includes seventeen schools and colleges and many academic departments, centers, institutes, libraries, museums, and hospitals.

Reasons for Embracing CQI

A key factor in the University of Michigan's interest in CQI was a report submitted to the provost in March 1990 entitled "Enhancing Quality in an Era of Resource Constraints." The report noted, "Quality must be transformed from meaning more and better of everything to searching relentlessly for means of improvement [that] reduce costs, are cost neutral or low cost, while maintaining or enhancing the quality" of the university. Subsequent discussion of this concept prompted several important outcomes:

- There was an increased realization that Michigan needed to think intentionally about its mission and vision, not only university wide but within the component parts of the university, as well.
- There was an increased appreciation for the interdependencies and interconnectedness of people within the university, as well as the connections between the university and those external to it.
- There was an increased understanding that the university needed to foster each staff member's problem-solving abilities to help address important issues through process improvement and process innovation. There was also the realization that Michigan needed to create positive work environments where an atmosphere of serving others was a high priority.

Getting Started

The initial champions of the Quality approach at Michigan were the provost and executive vice president of academic affairs and the executive vice president and chief financial officer. Both continue to be strong supporters of M-Quality. Prior to broad university interest in the Quality approach, the university hospital and the information technology division were early champions. There was also early interest in the College of Engineering and the School of Business Administration.

Strategic Framework

A twenty-two member Quality Council was formed in mid-1991, consisting of the university's executive officers, some deans, and others. The council's early role was to draft a university mission and vision statement, affirm the university's interest in and commitment to the Quality approach, and establish a design team to develop a Quality implementation plan. The plan was developed during the 1991-92 academic year and was accepted by the Quality Council in the summer of 1992. It called for a focus on the administrative and business processes of the university. The current organizational structure for M-Quality is as follows:

- M-Quality Steering Committee. This nine-person group is chaired by two executive vice presidents and is charged with providing overall guidance and direction for M-Quality.
- Council on Continuous Improvement. This forty-five-person group is chaired by the two executive vice presidents and consists of the university's executive officers, the deans, and others. It includes all members of the M-Quality Steering Committee. The council's most important role is to participate in educational experiences provided by the faculty and staff so that its members can examine leadership, management, and organizational issues in regard to the principles of Continuous Improvement, and to explore ways to translate these principles into behaviors and actions. The council members also share information with one another about "lessons being learned" from across Quality Improvement efforts on campus. In short, the group does not have administrative responsibilities, but instead, its members meet to further their own education about Continuous Improvement.
- Assistant vice president for academic affairs and executive advisor for M-Quality. This individual provides staff support to the two executive vice presidents and to the two groups named above and also serves on three committees (training, communication, and evaluation) that work on Quality implementation on behalf of the M-Quality Steering Committee. Since one of the goals of M-Quality is to reinforce the existing line-management structure of the university, the leaders of these committees come from areas of the university that have ongoing responsibility for these topics: the office of human resource development (training); the office of university relations (communication); and the office of academic planning and analysis (evaluation).

Obstacles

The key obstacles to effective implementation have been:

- finding a suitable organizational structure for M-Quality (the university has adapted its M-Quality structure in the past year to one that is now believed to be effective for its circumstances);
- communicating with staff and faculty who work in very different kinds of settings about why the university is involved with M-Quality, what M-Quality represents, how it is being implemented, and how to become involved;
- finding effective ways to overcome resistance to change; and
- translating TQM terminology, techniques, and principles so that they are widely understood to be compatible with the history and traditions of the university.

Key Successes

Given the short time that the university has been involved with M-Quality, it may be premature to talk about key successes or accomplishments. However, the university believes it is laying the foundation for success in the following ways:

- A design team was appointed in August 1991 to recommend a unique Quality approach for the university. Michigan believes that the publication of the design team report was a significant intervention.
- The university is developing a broad-based training program that ranges from two-hour orientation sessions on M-Quality to advanced courses for team-leader training (five days)

and facilitator training (four days). New courses continue to be developed, including The Changing Role of the Manager, which provides a forum for managers to talk about the expectations of managers in a Quality environment.

- The university surveyed staff about M-Quality and produced a report in September 1993 that highlighted their awareness and perceptions. The survey found that staff have many of the same positive expectations for M-Quality as do the university's leaders: general improvements in work processes and outcomes, more collaboration in work processes, increased "customer" service and satisfaction, increased respect for people, improved morale, and a general improvement in the work environment.
- The university surveyed staff to determine their perceptions of their work environment, to obtain baseline information on issues in the current environment that are relevant to the Quality approach. While this was not an M-Quality survey, it probably would not have been undertaken were it not for M-Quality.
- Quality-improvement teams are working throughout the university. Members of many teams report that the group dynamics in the team meetings are more positive than those in other settings and are more likely to lead to significant problem solving. The teams also report that training in Quality tools, techniques, and principles has been useful.
- Among the university's Quality Improvement teams is one focusing on materials acquisition. The cross-functional task team is made up of staff at all levels drawn from the purchasing, university stores, and plant operations departments. The primary goals of the team are to improve the effectiveness of and streamline the process for procuring products for use by the plant operations department. In addition to making significant progress toward achieving these goals, team members have benefited from the experience of working with colleagues outside their usual work groups and engaging in collaborative problem solving. The team successfully enhanced communication within the three departments by holding focus groups for staff to gain feedback on the progress of the team and to share the results of the data they had collected. As of Spring 1994, the team was ready to begin to implement some of the changes they had developed.
- Within the financial operations area of the university, a team was formed to address what should happen if funded research projects do not stay within their budgets. Previously, this issue was handled on a case-by-case basis and involved considerable time and effort; further, questions sometimes remained after the project's term had expired. In a span of six months, a Quality team examined the problem, gathered data, and came up with a detailed, standardized policy for addressing overdrafts. Throughout this process, the team continually consulted with departments and others who would be affected by the new policy. In the year and a half that the overdraft policy has been in place, financial operations has noted a significant reduction in project overdrafts, a greater sense of satisfaction from the departments, and a quicker resolution of problems.
- A Quality Improvement team examining the installation of phones and data circuits at the university has streamlined the process and reduced installation time by more than 75 percent.

Academic Activity

The original CQI design team recommended that M-Quality focus first on the administrative and business areas of the university. The success of these efforts has prompted more discussion

about how the university supports its faculty in their challenging administrative roles as deans, chairs, and directors.

The university is stressing commonalities between Classroom Assessment and the Quality approach in an effort to generate more positive faculty interest in Quality. The university also plans to foster faculty discussion of the roots of the Quality approach in research, as found in the behavioral sciences and statistics. One of the university's noted emeritus professors, Robert L. Kahn, already has written a paper that is being used to accomplish this goal.

There is currently CQI content in more than fifty-five courses in the Colleges of Engineering, Literature, Science and the Arts, and the School of Business Administration.

Faculty Resistance to CQI

Criticism has come from some faculty members who are concerned that corporate jargon and principles may change the university in undesirable ways. Much of this criticism centers around whether students are "customers" of the faculty. One way of addressing such concerns was to initiate M-Quality on the administrative and business sides of the university first, with the expectation that faculty would see themselves as the "customer" of these processes.

The design team that prepared the implementation plan for M-Quality was aware of faculty concerns and tried to translate the corporate vocabulary and principles in ways that would be more appropriate for higher education. For example, the word "customer" has become "those we serve." However, given the coverage that TQM receives in the media, the word "customer" becomes associated with any TQM-like approach. Since this is the case, the university has encouraged faculty to increase their understanding of the principles and concepts that support M-Quality. Michigan also has urged faculty to identify and stress the linkages between the principles of Classroom Assessment and the principles of M-Quality.

In addition, Michigan has asked faculty who teach courses with some TQM content (in areas such as organizational psychology, statistics, business, and engineering) to increase their understanding of M-Quality and to determine if or how they might wish to be involved in the process. For example, faculty might allow students to assist Quality Improvement teams in planning and conducting surveys, analyzing survey and operational data, and so forth.

Next Steps

- The university will produce an annual report on M-Quality issues, accomplishments, and plans.
- Training related to M-Quality will continue to change and be augmented as faculty and staff understanding of M-Quality tools and techniques evolves.
- University leaders will receive further education and training on topics such as managing and leading in a Quality-oriented environment and planning for organizational culture change.
- A publication entitled *Becoming Involved with M-Quality* has just been published and will be distributed throughout the campus.
- More Quality Improvement teams are expected to form, and all teams will be expected to report their activity on a regular basis. The university will encourage faculty and staff to consider how M-Quality can be useful in their daily work lives.
- The university is working on plans to develop Quality indicators.

Hindsight

Early on, the university would have asked selected faculty to explore the intellectual roots and the evolution of the Quality approach and to provide their thoughts on the implications of CQI implementation for the university. The results of the work by these faculty would have formed the basis for initial educational sessions with deans and other academic administrators, instead of having outside consultants provide such an introduction. Michigan also would have encouraged more exploration early on of the linkages between the principles of Classroom Assessment and M-Quality.

Although the development of a draft university mission and vision statement was completed in August 1991, Michigan would have disseminated the statement more widely so that more people could have read and discussed it. This would have fostered greater understanding and more widespread ownership of the statement.

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UNIVERSITY OF MINNESOTA

The Institution

The University of Minnesota (UM)-Twin Cities campus is actually located in two sites — Minneapolis and St. Paul. UM is a state land-grant university and a comprehensive research institution. UM is unique in that it is located in a major metropolitan area with a student body of more than 38,000 (in addition to more than 20,000 evening or extension students). The Twin Cities campus is the largest, consisting of twenty colleges and offering a range of academic and professional degree programs — graduate and undergraduate — in more than 250 fields of study.

Reasons for Embracing CQI

Early reasons for CQI implementation at UM included pressure from internal faculty and administrative champions. The internal faculty champions were three faculty members from the College of Education, the Institute of Technology, and the Carlson School of Management. Each of these men was familiar with CQI and the potential/capacity for using these techniques to help transform the work processes and improve the organization and the culture. They not only wanted to teach this material in their degree and certificate programs, they wanted the university to utilize Quality Improvement (QI) internally as an institution. The vice president for finance and operations was the principal administrative champion. He was convinced of the potential for QI within the institution by the faculty champions.

Presently, QI implementation at UM is being fueled by pressure from various external constituency groups, particularly the local business community, and the belief (held by UM's president and other administrators and staff members) that QI can make a difference in the university's efforts at academic renewal and organizational improvement. With respect to external constituent groups, the Minnesota QI community is large and very sophisticated. Persons working in QI within business and industry, state and local government, and the Minnesota Quality Council were and are very interested in helping UM embrace QI.

Getting Started

Originally, a small group of faculty members from the College of Education and the mechanical engineering and operations management departments (each with experience teaching or consulting and conducting research in QI) met and developed a proposal to encourage the university to make a commitment to QI. They eventually convinced the vice president for finance and operations to aid their cause; however, the death of the vice president terminated this initial entry into QI.

Some time later, another key UM administrator, who had been encouraged by the first QI discussions, championed a second attempt. This time the effort was housed in academic affairs. External trainers conducted training for the president and his cabinet in 1991, a coordinator for QI was hired, and a steering committee was established.

Early leaders and champions appeared within some major institutional support or service units, including registration (eliminating barriers to one-stop registration), prospective student services (improving coordination of student information services), and paper flow (reducing

the dramatically increasing volume of paper handled by the on-campus mail service). Additional champions can be found in UM's university libraries and in the Carlson School of Management.

Strategic Framework

A coordinator for QI was hired in 1991 and reported to the vice president for academic affairs. The university appointed a Quality Steering Committee, chaired by the vice president for finance and operations and staffed by the coordinator. This group of people met monthly to develop an annual work plan for the initiative, to recruit and select pilot projects, to provide general oversight and leadership, and to generate positive public relations. The Quality Steering Committee included academic, civil service, and administrative personnel from throughout the institution.

Obstacles

UM cites the following obstacles to CQI implementation at the university:

- Although the top administration advocate QI, their true commitment (in terms of "walking the talk") is questioned within the UM community.
- Although a QI coordinator was hired, the person was continually assigned to other projects and activities.
- Skepticism, particularly among faculty members, runs high. They are not convinced of the value or wisdom of taking what they view as an industrial concept and attempting to translate it within an academic setting.
- In some sectors of the institution, UM cannot use such words as "Quality," "customer," or "client."
- There is a distrust that QI may be yet another guise for cost-cutting and staff reductions.
- The initiative has been inadequately staffed and funded.
- For a couple of years, UM had an "administrative paradox" in that the coordinator of the Quality Steering Committee reported to academic affairs, whereas the vice president for finance and operations, who chaired the committee, was being held accountable for its actions.
- UM has never really reached and obtained commitment from a key internal stakeholder group — the deans of the academic units.
- In using the pilot project approach to stimulate interest and visibility, some people began to mistake QI for a "project" rather than an ongoing commitment to Continuous Quality Improvement.
- The initiative never became a part of the overall institutional strategy; QI was simply an "add-on."
- Due to staff and budget limitations, the university has been unable to provide adequate visibility to the good projects and teams and the positive results they have achieved.
- Once UM began to offer training and consultative support, the university's limited staff and budget did not allow the institution to keep up with the "seemingly endless demands."
- Many questions raised about QI implementation within an institution as large and complex as UM are not readily answered by the Quality literature.

Key Successes

Although UM is currently in a period of introspection and reassessment — planning for a new, stronger future for Quality Improvement — it recognizes the following as being among its key successes and accomplishments to date:

- a continuing strong verbal commitment from the president to the use of QI as a driving force for his change initiatives;
- a dramatic interest within the local and state business community in UM's successful implementation of QI;
- enthusiastic responses to training and consultative support offered by the finance and operations office, despite poor staffing and budget that made keeping up with the demand for training "nearly impossible";
- dramatically increased awareness and interest as a result of the training, luncheons, and other outreach or public relations activities;
- a commitment from the vice president and associate vice president for finance and operations to recharter and strengthen QI, including providing adequate staffing and financial support;
- a belief among project team members that they are making a significant difference — creating change;
- observations of real empowerment among personnel involved in QI teams;
- "limitless potential" for process improvement and people committed to making a difference.

Academic Activity

Courses in QI at UM are taught in engineering, operations management, and human resource development (College of Education). Two of these units (education and engineering) also collaborate in offering a certificate program in Quality Improvement.

One project that UM is very proud of is based in the department of food science and nutrition and focuses on improving the undergraduate advising process. The unit has dual collegiate reporting lines to the College of Agriculture and to the College of Human Ecology. Members of the improvement team include faculty, staff, advisors, and students. They use a variety of QI tools and techniques, including process-flow diagramming and cause-and-effect diagrams. The unit has conducted research with a variety of customer groups, including surveys and focus groups with students. The department head is "quite satisfied" with the improvements to date and is talking with finance and operations about collaborating on additional initiatives.

One UM faculty member in particular (from the department of food science and nutrition) has been a true champion of Quality Improvement. She has tried to incorporate QI into her classroom teaching, with rather mixed feedback. Evidently the radical departure from the traditional modus operandi is problematic for some students; however, UM notes that she has the support of the department head and hopes to continue the effort.

Faculty Resistance to CQI

UM has been trying to focus on points of opportunity rather than trying to "save the resistors." However, the university currently is toying with the option of tackling a major university-wide process-improvement initiative that would be sponsored by the president (whose approval is pending). Although this would be a high-risk project, it would have a very high potential payoff with many internal and external constituency groups — including the faculty.

In general, CQI language/jargon is not used around faculty members who are known to resist it. Instead, the conversation is reframed to more acceptable terms, focusing primarily on their interests and concerns.

Next Steps

UM is currently in a phase of rechartering its entire Quality Improvement initiative. New reporting lines have been created — first to the associate vice president and then to the vice president of finance and operations. The university is consulting broadly with both internal and external experts, meeting with the president, and trying to learn from what has happened in the past and elsewhere. Also, a new Quality Leadership Center has been established on campus in the Carlson School of Management. UM is forming collaborative relationships with personnel in that center and is working on plans and initiatives that will serve the institution's relatively interdependent agendas.

In addition, UM is hopeful that, if the president and his cabinet affirm the agenda, some or all of the following will occur:

- the continuation of a variety of process-improvement initiatives with teams in a number of colleges and support service units;
- the continuation and expansion of a program of training, consultation, and technical support;
- the achievement of stability in staffing and funding;
- an increase in efforts to collaborate and coordinate with internal and external persons and organizations with common interests;
- expanded use of external (Minnesota-based) talent to advise UM on its QI initiatives.

Hindsight

In hindsight, UM would:

- increase support and staffing to aid QI teams not only in their study, analysis, and development of recommendations, but in the long-term process of implementation;
- provide increased support and staffing and improve/expand the availability of training and consultative services to QI teams;
- conduct a more prolific internal and external campaign of positive public relations about the efforts under way;
- move to earlier use of the consultative talent available on and off campus;
- create better linkages with UM's academic programs by hiring graduate students to assist with training and consultative services, team facilitation, and other functions;
- demand/work for greater up-front commitment from the board of regents, the president, the president's cabinet, and the deans;

- obtain and provide funding for innovative projects to incorporate and test QI principles in the curriculum and in related academic support service units, offering significant incentives for the time and the risk involved.

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UNIVERSITY OF TAMPA

The Institution

Located in the Tampa Bay region of Florida's west central coast, The University of Tampa is an independent comprehensive institution of approximately 2,400 students, including 1,500 full-time undergraduates. Tampa provides students from forty-four states and forty-two foreign countries with thirty-four undergraduate majors and two master's-level programs in business administration and nursing administration.

Reasons for Embracing CQI

The University of Tampa embraced Continuous Quality Improvement (or "Quality Process Management," as it is referred to at the university) in the summer of 1992 to (1) administer its resources more effectively and efficiently, channeling a larger proportion of them to the academic enterprise, and (2) assure that institutional decision making occurs as close as possible to the persons most directly affected by those decisions. Tampa concluded that the most productive approach to realizing these goals would be two-pronged, requiring a renewed emphasis on Quality outcomes and a "reinvention" of the administrative structure to promote cross-functional working relationships in both the academic and economic enterprises of the university. (This reinvention is explained further in an in-house publication entitled *A Liberal Arts University for a New Millenium*, by President David G. Ruffer.)

Getting Started

The initial champion of Tampa's "administrative reinvention" was its president. After carefully observing the university's operation during his first year on campus, the president decided to reorganize the administration cross-functionally and to institute Quality principles applicable to all administrative units. He enlisted the guidance and support of two professors of management, one of whom is also director of the Center for Quality in Tampa's College of Business; the dean of the College of Business; and an associate professor of mathematics, who also serves as the chair of Tampa's faculty governing body.

Strategic Framework

The president introduced CQI to the campus by creating two coordinating bodies: the Academic Enterprise Quality Council, and the Economic Enterprise Quality Council. The Economic Enterprise Quality Council began its work in the summer of 1992 by (1) identifying eight key university-wide processes, (2) organizing "operations" and cross-functional "design" teams around each process, and (3) naming "advocates" and "facilitators" for each team. The Academic Enterprise Quality Council, formed in the fall of 1993, adopted similar procedures and identified five key processes and design teams. In the spring of 1994, the two councils merged and reduced the number of key processes to eleven. (These new organizational structures are explained further in an in-house publication entitled *Quality Process Management for the University of Tampa*, by President David G. Ruffer.)

Obstacles

The university has encountered three key obstacles in its first two years of CQI implementation:

- Tampa constructed its process teams cross-functionally to ensure improved cross-functional communication and working relationships. Although the university has experienced some specific cases of benefit from this restructuring, there are still staff members (and units) who "lack the experience and, at times, the motivation to take advantage of this arrangement." Some staff members who presently serve on cross-functional process teams have only limited experience in working closely and cooperatively on a regular basis with staff from other functional areas. Previous to CQI implementation, these staff members were able to perform effectively enough within the confines of their own departments without interacting regularly with "outsiders." The success of CQI demands cross-functional interaction, which in turn requires that employees have both the skill and motivation to work openly and cooperatively with other departments. Tampa plans to offer training in communication skills and strategies, as well as additional incentives for initiating successful cross-functional communication, to overcome this hurdle.
- Throughout the CQI implementation process, Tampa has emphasized process mapping and has trained process teams to analyze and improve current routine operations. However, the university neglected to focus enough attention on the priority-setting and problem-solving aspects of teamwork. As a result, teams occasionally have allowed more pressing institutional concerns to go unattended while attempting to fix a somewhat less important, routine subprocesses. Tampa plans to provide team members with clearer direction and more specific training for these tasks.
- Tampa presently is operating under tight budgetary constraints, which tend to distract the attention of administrative staff from the process management tasks at hand. In addition, because the institution has yet to develop the degree of sophistication necessary to apply process-management techniques in situations that demand quick analysis and decision making, its staff in some cases find the cross-functional structure somewhat awkward and unresponsive. Some blame the structure itself for this difficulty. Tampa is centralizing the more pressing concerns and is attempting to help team members recognize that this structure will be more effective once the university has become "more mature" in its use.

Key Successes

Beyond the "obvious gains" in cross-functional communication and teamwork, the university has realized specific success in three main areas:

- The student information, records, and registration process team implemented a revised Fall registration process in September 1993. Students, faculty, and staff noted an overall improvement.
- The enrollment management process team addressed two especially complex processes in Fall 1993: student retention and tuition pricing. This team has generated concrete recommendations in both areas and has demonstrated the ability to provide the university with clear direction and leadership.
- The administrators and faculty members who make up the Quality Council are actively embracing and adapting the process-management approach to meet Tampa's academic needs.

In particular, the council has identified four key processes that define the academic enterprise: (1) university environment, (2) academic services, (3) academic programs and offerings, and (4) cocurricular activities, services, and programs.

Academic Activity

The university is implementing CQI in the academic enterprise via the identification of key academic processes and the integration of the faculty governance structure with the Quality Council's process orientation. Tampa is confident that the CQI approach will support faculty participation in university-wide decision making.

Faculty Resistance to CQI

Tampa has experienced no faculty resistance to date. The president implemented process-management structures and procedures in the university's economic enterprise before introducing them to the academic enterprise to allow faculty to observe and contribute to the process from a nonthreatening distance. Faculty governance and committee structure has in no way been affected by the "reinvention" of administrative processes. Tampa has repeatedly indicated to faculty and staff that process management is expected to manifest itself in distinctly unique forms for both the academic and economic enterprises. The university believes that its approach to CQI is sufficiently flexible to allow faculty the freedom to meet academic needs as they perceive them. Over time, Tampa anticipates that its quality- and process-management efforts will find unique expression within the academic enterprise.

Next Steps

Tampa's next steps (with accompanying implementation deadlines) for CQI are the following:

- August 1994:
  (1) Provide priority-setting and problem-solving training for economic enterprise teams.
  (2) Implement a system of Quality measurement and goal setting for all economic enterprise teams.
  (3) Provide communication skills training for all economic enterprise teams.
  (4) Provide training for all team facilitators.
  (5) Begin benchmarking activities in all economic enterprise teams.
- September 1994:
  (6) Complete the application of cross-functional teamwork to the budget process.
- October 1994:
  (7) Conduct an internal audit of Quality process-management efforts.
  (8) Establish methods for integrating faculty governance and process-management structures.
- December 1994:
  (9) Provide training in appropriate teamwork skills for academic enterprise teams.
  (10) Develop a recognition/reward system for teams and team members.

Hindsight

- Process teams would receive training in priority-setting, problem-solving, and process-mapping methodologies. From the start, teams would be expected to account for the immediate and short-term needs of their subprocesses in addition to setting long-term plans.
- Process teams would be required to establish deadlines for their mapping and implementation objectives. This change would help teams remain task oriented and enable them to successfully complete more of their projects.

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UNIVERSITY OF WISCONSIN-MADISON

The Institution

The University of Wisconsin-Madison is a public research land-grant university located in Madison, Wisconsin. The university has an enrollment of 43,000 students, including more than 11,500 graduate students.

Reasons for Embracing CQI

Although the university has experienced the usual influences and pressures from both internal and external sources, UW-Madison's primary reason for embracing Quality methods has been an intrinsic motivation to improve. The university had no crisis at hand, although its leaders recognized the many serious issues facing higher education.

The primary challenges that UW-Madison faces include public demands for accountability, mission balance (for example, teaching vs. research), traditionally vertical structures and approaches to education, and the exponential growth of knowledge.

Getting Started

UW-Madison's primary CQI champion was the special assistant to the chancellor. As a former mayoral aid for the city of Madison, he had been instrumental in the city's efforts to implement Quality. With the chancellor's backing, he began building interest in Quality throughout the campus.

The graduate school and student academic services (admissions, registrar, financial services) were the pilot implementation areas, led by strong, involved leaders. They were followed closely by housing, the office of the dean of students, purchasing, and facilities planning and management. Departments volunteered to adopt CQI. Individual departments were selected based on certain criteria, including management's willingness to take an active role in learning about Quality and leading the effort to implement it.

Strategic Framework

An Office of Quality Improvement (OQI) was initiated in 1989, staffed by one half-time consultant reporting to the special assistant to the chancellor, who also spent about half of his time on Quality efforts. A half-time graduate student majoring in Quality was added soon after. The OQI's mission is to be a catalyst for and a resource to the university during CQI implementation. Its functions include consulting, training, planning, networking, and materials development. The OQI's staff now includes a director, consultant, two trainers (one part time), three part-time graduate students, and support staff.

The university formed a Quality Council in 1990 but disbanded it when the administration realized all direction had to come from the campus's natural leaders. The provost then assumed a leadership role in the Quality effort, using an informal team of campus leaders to plan and guide campus-wide efforts. The provost since has become UW-Madison's chancellor, but he continues to lead the university's Quality effort, integrating Quality issues into the university's day-to-day business.

A major emphasis of UW-Madison's overall Quality strategy has been to support and nurture the CQI champions on campus and to help them create successful models for others to emulate.

Obstacles

One obstacle to UW-Madison's CQI implementation is the lack of a clearly defined management/leadership team, although that also has proven to be an advantage at times by providing flexibility and alternatives that a traditional hierarchy does not. In addition, adapting Quality approaches to higher education is an ongoing challenge. The difficulty of developing a vision statement is one good example of how closely linked these "challenges" are. In most private-sector approaches to Quality, top leadership oversees the development of a mission and vision statement. Since the definition of "leadership" is unclear in higher education, it is presumptuous for any one person or group to define the project's purpose or direction. Yet, many are asking for clear leadership. Because academic style lends itself to dialogue and debate, UW-Madison's approach to Quality has been to raise key issues in informal groups; these questions then are discussed in town meetings, focus groups, presentations, department meetings, and other group formats. Such an approach seems to be leading to a general consensus for action in key areas.

Key Successes

UW-Madison's most measurable success has been the admissions project led by the Graduate School. The admissions office reduced its response time to incoming applications from an average of ninety-nine days to five days or less. The office started by viewing students as customers; redefining policies; and then defining, improving, and ultimately standardizing its processes. The admissions office now holds regular forums involving all campus departments to continually improve the process. The benefits have been numerous: Graduate School applicants receive their materials in a more timely manner; the application process is easier to understand; and significant time and money have been saved. But the real benefits of improving a process like this (for example, increased customer satisfaction) are immeasurable. Other successes include:

- The College of Agriculture and Life Sciences recently won a Kellogg grant to help integrate services across campus.
- The UW Hospital has reduced the waiting time for surgery and other treatments.
- UW-Madison housing surveyed students to determine what elements of food service were most important to them. They then increased offerings of healthy food, implemented a debit card system, labeled food for fat/calorie content, increased variety, and improved the eating environment.
- The College of Engineering is improving its curriculum-development process by surveying industry, students, and alumni to determine their needs. The college also is working across academic disciplines to improve the integration of knowledge and is benchmarking with other universities.
- The student unions have redefined their budgeting process in a way that breaks down barriers between units, so that like services work together toward a shared aim. Decisions are made at levels closest to the work. The unions also have improved their job training so that literally hundreds of new staff can be hired and on the job within days.

- The Graduate School has a long-range strategic plan, is conducting improvement studies of each of its critical processes (improvement projects for six processes are already complete), and has transformed the way it views and works with its "customers." All staff make improvements on a daily basis. At biannual all-staff meetings, front-line staff illustrate the improvements they have made to mailing lists, forms, computer responses, interrelationships with other units on campus, and so forth.

Academic Activity

UW-Madison began to introduce Quality to the academic side in 1993. To date:

- The chancellor is leading an effort to promote campus-wide strategic planning and is working in cooperation with the deans of all schools and colleges, who are leading the effort for department-level planning.
- Academic advising is being viewed as a process and improved with a campus-wide perspective.
- Professors in several departments have integrated Quality techniques (including training) into their classrooms. The results of at least one of these experiments have been published both in the United States and abroad.
- The department of history is identifying critical processes (such as supporting its students, admitting students, preparing course materials); documenting them; and defining staff roles. Each of these steps results in improvement because the staff more fully understand their work, how it fits into the department mission, and how their jobs are interrelated.
- The department of medical microbiology and immunology improved its process for grant writing and submission. Results indicate more grants are approved. Also, since the process is now so easy, many more grant proposals are being submitted.
- The Graduate School is leading an effort to define what it means by "satisfactory progress" and to improve the performance of graduate students. This will involve monitoring and then improving systems that help students reduce their time to degree and improve their successes. Findings also should benefit undergraduate students.
- The School of Business teaches Quality Improvement concepts through intense master's and doctorate programs, and it also is integrating these concepts into numerous other business courses. The College of Engineering also offers a master's program in Quality.
- The College of Engineering is leading efforts in teaching improvement through a voluntary team of veteran professors working with a post-doctorate student.

Faculty Resistance to CQI

UW-Madison's strategy is not to "ask people to do it." Instead, the university seeks out champions and nurtures their efforts, helping them create results in the real issues they are facing. The university helps faculty learn about Quality through in-house training, provides consultation to help them identify and address their "real issues" using Quality methods, and helps communicate what they have learned to colleagues to increase its impact. Successful results speak for themselves, creating new interest in CQI. The dramatic improvement of the Graduate School's efforts has been instrumental in creating interest among faculty and reducing faculty resistance to CQI.

Next Steps

UW-Madison's chancellor has led an effort to create a concise mission and define nine directions for focused improvements and three themes for the future. Key university leaders are leading efforts in the most critical areas. Future themes will influence improvements across campus in the learning environment, horizontal integration across disciplines and departments, and a campus physical plan.

Strategic planning also will be a focus at UW-Madison, with the goal of developing long-range plans for the campus, for each school/college and department, and for administrative areas. Planning will be linked to the budget process and will have a "plan, do, check, act" approach.

The university also expects to see more involvement in Quality on the academic side, and greater demand for learning opportunities. UW-Madison still has much to learn in adapting Quality to an academic environment.

Hindsight

Leadership is clearly the most critical factor. As such, the university would be more selective about creating a core group of highly trained, effective, available facilitators. The institution also would be more diligent in encouraging and supporting leaders' efforts to learn about and implement Quality. The university would not change its strategy of creating successes with willing leaders and then using those successes to generate interest in Quality.

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APPENDIX

SURVEY INSTRUMENT

Reminder: *Deadline is December 15, 1993.* Thank you!

1. Brief description of your institution. For example: size, type, location. No more than 2-3 sentences.

2. What were the one or two primary reasons for embracing Continuous Quality Improvement? For example, were they primarily internal (e.g., academic renewal, cost-cutting) or external (e.g., stage legislature, pressure from business customers)?

3. Who were the initial champions? In which departments or functional areas of the institution did CQI begin?

4. What strategic framework did you use to launch CQI? For example, Quality councils, steering committees, a Quality office, hiring a Quality manager, etc.

5. What have been the key obstacles to CQI implementation encountered thus far?

6. What are the key successes or accomplishments thus far? For example, customer satisfaction, employee satisfaction, significant cost savings, etc.

7. Have you been able to move CQI implementation to the academic side? If so, how? For example, through CQI-related courses, teaching methods, curriculum design, restructuring reward systems, a new style of management in academic departments, etc.

8. If there was faculty resistance, how was it approached (overcome)?

9. What are your next steps in implementation? Use a time frame of the next 12-18 months.

10. If you could start over, knowing what you know now, what two things would you do differently?

ABOUT AAHE

The American Association for Higher Education (AAHE) is a national organization of individuals dedicated to improving the quality of higher education. AAHE members share two convictions: that higher education should play a more central role in national life, and that each of our institutions can be more effective. AAHE helps to translate these convictions into action. Through its programmatic activities, its conferences, and its publications, AAHE helps its members acquire the "big picture" and the practical tools they need to increase their effectiveness in their own settings and to improve the enterprise as a whole.

Member support enables AAHE to initiate special programs on a range of issues to create effective change at the campus, state, and national levels. Currently, these special programs are the AAHE Teaching Initiative, the AAHE Assessment Forum, the AAHE CQI Project, the AAHE Forum on Faculty Roles & Rewards, AAHE Technology Projects, and the Education Trust. Members receive discounts on the conferences and publications these programs generate and can access their consulting, networking, and information resources.

Other benefits of AAHE membership include subscriptions to *Change* magazine and the *AAHE Bulletin*, discounts on registration at AAHE's four annual conferences, discounts on AAHE's publications and selected non-AAHE periodicals *(The Journal of Higher Education* and *ASHE-ERIC Higher Education Reports)*, and more. For more information, write, call, or fax:

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THE AAHE CONTINUOUS QUALITY IMPROVEMENT (CQI) PROJECT

In January 1993, the Academic Quality Consortium (AQC, see below) initiated the AAHE Continuous Quality Improvement (CQI) Project. The idea for the project grew out of both excitement and concern: excitement about the potential for CQI to strengthen the effectiveness of higher education's core processes; concern that colleges and universities would make the same mistakes other sectors have in implementation.

The newness of CQI to higher education means that much remains to be learned about its "fit" with the academic environment. The AAHE CQI Project serves primarily as a networking hub and resources clearinghouse and seeks to advance knowledge about CQI by keeping close tabs on campus activities and creating outlets for the exchange of ideas, practices, and innovations. The following are some of the resources offered by the AAHE CQI Project:

PUBLICATIONS

- ***CQI 101: A First Reader for Higher Education.*** A collection of 24 articles reprinted from various sources and divided into three sections: CQI: Roots, Principles, and Leaders; CQI: Applications in Other Sectors; and CQI in the Academy ($18 each for AAHE members, $20 each for nonmembers, plus shipping).
- ***TQM: Will It Work On Campus?*** A reprint of seven articles on TQM from the May/June 1993 issue of *Change*. Authors include Ted Marchese, Peter Ewell, and Dan Seymour. Great for wide distribution on campus ($8 each for AAHE members, $10 each for nonmembers; 2-9 copies, $5 each; 10+ copies, $3.50 each, plus shipping).
- ***25 Snapshots of a Movement: Profiles of Campuses Implementing CQI.*** Descriptions of selected campuses involved in implementing CQI for at least two years. Addresses the primary reasons for embracing CQI, strategic frameworks used to launch CQI, key obstacles to implementation, key successes, and next steps ($13 each for AAHE members, $15 each for nonmembers, plus shipping).
- ***Roadmap to Resources: Sources and Tools for CQI Implementation.*** A sourcebook that includes recommended readings, conferences to attend, training programs, lists of campus documents, CQI-oriented software, recommended videos, and much more. ($10 each for AAHE members, $12 each for nonmembers, plus shipping). *Available October 1994.*

INTERNET

- **CQI-Listserv.** The Project has developed a national moderated Listserv discussion group on CQI in higher education that is open to all. One question is posed to subscribers every other week; synthesized responses are posted the following week. To subscribe, send the following message (in lower-case letters): "SUBSCRIBE CQI-L FIRSTNAME LASTNAME" to the Internet address LISTSERV@MR.NET

INFORMATION CLEARINGHOUSE

- **The Project data base and in-house library** includes practitioner names, articles, reports, conferences, consultants, training, etc. Call, write, or email for assistance with your campus efforts.

ANNUAL CONFERENCE

- **The 1995 AAHE Assessment & Quality Conference** will be held June 11-14, 1995, in Boston, Massachusetts. Tapes from the 1994 and 1993 conference sessions are still available for purchase.

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ACADEMIC QUALITY CONSORTIUM (AQC)

The Academic Quality Consortium is a collaboration of the American Association for Higher Education and the William C. Norris Institute created to provide campuses committed to implementing Continuous Quality Improvement (CQI) the opportunity to work collaboratively by exchanging information, building on one another's experiences, expanding on the assessment practices already being utilized, and sharing with the wider higher education community the results of their work. Participating colleges and universities are committed to institution-wide implementation of the principles of Continuous Improvement to maximize learning accomplishment. Objectives of the Consortium are to:

- Provide leadership in the transformation of higher education, with a focus on Continuous Improvement in its ability to make an essential contribution to society.
- Support the implementation of CQI principles in member institutions.
- Provide for the effective exchange of ideas and findings regarding Continuous Quality Improvement among higher education practitioners.
- Explore the value and means for a Baldrige-like process that would establish new norms for Quality recognition in American higher education.

Strategically, the Consortium has started with a small group of institutions that already have gained experience in pursuing CQI to provide a learning laboratory for sharing among the most advanced practitioners. Initial work has focused on establishing an annual national conference on CQI and the assessment of learning each June and on exploring the use of the Baldrige Award criteria as a self-assessment tool for higher education. Current member institutions are:

Alverno College
Belmont University
Clemson University
Dallas County Comm. Coll.
Delaware County Comm. Coll.
Florida International University
Fordham Grad. Business School
Fox Valley Technical College
Georgia Institute of Technology
Maricopa County Comm. Colleges
Marietta College
Miami University
Northwest Missouri State Univ.
Oregon State University
Pennsylvania State University
St. John Fisher College
Samford University
University of Michigan
Univ. of Minnesota-Twin Cities
University of Minnesota-Duluth
Univ. of Wisconsin-Madison
Winona State University

It is the commitment of the Consortium to broaden its membership as it gains experience in its own operation and as resources become available to support a larger effort. A primary way that the Consortium shares its experience and knowledge of Quality practices is through the AAHE Continuous Quality Improvement (CQI) Project.

Monica Manning, Executive Director
Academic Quality Consortium (AQC)

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